AN ABSTRACT OF THE DISSERTATION OF

Jennifer A. Morgan for the degree of Doctor of Philosophy in Exercise and Sport Science presented on April 5, 2013.

Title: Factors Influencing Physical Educators' Inclusion Behaviors Towards Students with Autism Spectrum Disorder

Abstract approved:

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The inclusion of students with disabilities in general physical education (GPE) classes has become a concept and practice that is expected if not always understood. A review of inclusion in physical education literature suggested that GPE teachers possess less than favorable feelings towards the inclusion of students with disabilities in their classroom (Block & Obrusnikova, 2007). In order to provide teacher-training programs that support inclusive instruction, a closer look into understanding teacher's inclusion behaviors is warranted. The current project aimed to examine (a) an integration of two psychosocial theories to explain teachers' inclusion behaviors and (b) what variables, such as years of experience, training, and beliefs, influenced these behaviors. The first manuscript employed Self-Efficacy Theory (SET) and Theory of Planned Behavior (TPB) to predict teachers' behaviors towards including students with autism spectrum disorder (ASD). There were 151 participants from a national random sample whom

submitted surveys anonymously online. Results from a hierarchical regression analysis with SET entered into the first step, followed by TPB, indicated that self-efficacy explained 3.4% of the variance in behavior and the addition of TPB increased the variance explained to 5.3%. However, upon examining the beta values, SET was the only significant predictor of inclusive behaviors. The second manuscript investigated relationships between GPE teachers' beliefs, training, experience, and behaviors. Participants were 142 current GPE teachers who submitted surveys anonymously online. Results from a regression analysis indicated that teachers' experience, graduate coursework in adapted physical education (APE), and perceptions of strength in undergraduate training in APE significantly predicted their behavior for including students with ASD. Although the proposed integrative framework was not supported for predicting inclusion behavior, results did provide a unique glimpse into what teachers' are faced with in terms of numbers of students, support from other professionals, training, as well as personal confidence. While teacher education appears to be a significant predictor of inclusion behaviors, questions remain as to what kind of training is most successful at preparing teachers' to include students with disabilities. Future research should look not only into teacher education programs, but also into student-level behaviors (i.e. physical activity and engagement) in effort to establish evidence of best practices in teacher education.

Factors Influencing Physical Educators' Inclusion Behaviors Towards Students with Autism Spectrum Disorder

by

Jennifer A. Morgan

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Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State Universities libraries. My signature below authorizes release of my dissertation to any reader upon request.

Jennifer A. Morgan, Author

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CONTRIBUTION OF AUTHORS

Jennifer A. Morgan conceptualized this project, collected data, conducted data analyses, interpreted the findings, and drafted the manuscripts.

Joonkoo Yun, Ph.D., assisted in the project conceptualization and research design, and provided editorial comments and suggestions on the final draft.

Heidi Wegis, Ph.D., assisted in building ideas for the project and research design and provided editorial comments and suggestions on the final draft.

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Chapter 1. General Introduction

Factors Influencing Physical Educators' Inclusion Behaviors Towards Students with Autism Spectrum Disorder

Research on teaching has long since sought to describe teacher characteristics that lead to changes in student learning (Gage, 1963). Effective teaching has been described as teaching that results in intended learning of the subject matter (Rink, 2003). In the physical education setting, intended student learning revolves around acquisition of motor and sport skills, knowledge about and appreciation for physical activity, as well as social development.

One factor that can result from intended learning is student achievement, which is a primary goal of education. Identifying associations between characteristics of teaching and student learning can be thought of as the first step in the identification of causal links to student achievement. Teacher behavior is one element of teaching characteristics that has garnered much attention with somewhat complex results. This process-product framework has been influential in the research, however there are few truly universal instructional practices (i.e. direct instruction) that are appropriate in all learning situations (Brophy, 1979). In this respect, teachers are required not only to master a number of teaching skills, but also know when to use them. This task becomes more complex with greater student diversity. For example, in the physical education setting, teachers should create and implement lessons that provide successful opportunities to learn for a wide range of student abilities.

There has been a steady increase in the number of students with disabilities placed in the general education classroom for the majority of their school day (Snyder, Dillow &

National Center for Education, 2011), subsequently their presence in the general physical education (GPE) classroom has likely become more common. In particular, the number of students with autism spectrum disorder (ASD) in the general education setting has more than tripled since 1990 (USDE, 2009). With a growth in the number of students with disabilities in the general education setting, the concept of inclusion has emerged. There is no legal definition of inclusion, however, leaders in the field of education and special education have provided statements and guidelines as to what inclusion entails (Lipsky & Gartner, 1997). A central focus in inclusion is the provision of equitable opportunity to all students, regardless of ability.

The inclusion of students with disabilities in general physical education (GPE) classes has become a concept and practice that is expected if not always understood. A review of inclusion in physical education literature by Block and Obrusnikova (2007) revealed that GPE teachers do not possess favorable feelings towards the inclusion of students in their classroom. The negative feelings appear to stem from a perception of inadequate teacher training, as evidenced by 'lack of preparation' being a predominant complaint by GPE teachers (Hodge, et al., 2009; LaMaster, Kinchin, Gal, & Siedentop, 1998). Despite GPE teachers' feelings, evidence of inclusion as a successful practice in student learning does exist (Klavina & Block, 2008; Lieberman, Dunn, van der Mars, & McCubbin, 2000; Lieberman, Newcomer, McCubbin, & Dalrymple, 1997).

Physical education teacher education (PETE) programs are charged with preparing teacher candidates in understanding and ability for transforming physical

activity content for the specific needs and abilities of the students they teach. A landmark report from The National Commission on Teaching for America's Future (1996) put forth a key initiative for recruiting, preparing, and retaining good teachers as a central strategy for improving schools. Indeed, teacher preparation is a high priority for quality education for all students. Training programs are the starting ground for teachers' development of beliefs and practices of including students with disabilities. While there are different conceptions of teacher learning reflected in various teacher education programs and policies nationwide, preparation in subject matter knowledge and pedagogy, along with time spent teaching in schools and working with children and youth in the community remain at the forefront (O'Sullivan, 2003).

Rationale

Teacher behavior is a multifaceted construct that warrants greater understanding through examination of factors that influence their behavior. Two prominent behavioral theories, Self-Efficacy Theory (SET) (Bandura, 1997) and the Theory of Planned Behavior (TPB) (Ajzen, 1991) have been used recently in the physical education setting.

Self-efficacy theory (Bandura, 1997) is thought to be a primary determinant of human behavior and has provided a theoretical base for studies in physical education teachers' efforts to increase students' physical activity (Martin, McCaughtry, Kulinna, & Cothran, 2009) as well as their inclusion behaviors (Hutzler, Zach, & Gafni, 2005; Taliaferro, 2010). This theory has been coupled with the TPB to investigate determinants

of teachers' intentions to teach physically active physical education classes (Martin & Kulinna, 2004).

The Theory of Planned Behavior is a model that attempts to explain the determinants of an individual's decision to enact a particular behavior (Ajzen, 1991). Physical education teachers' beliefs, intentions, and behaviors to teach physically active physical education classes have been examined with relative success from the perspective of TPB by physical education researchers (Hodges Kulinna, McCaughtry, Martin, Cothran, & Faust, 2008; Martin & Kulinna, 2004). TPB has also been used in inclusion research for examining physical education teachers' attitudes towards teaching students with disabilities (Block & Rizzo, 1995), with more recent works utilizing the theory to explain intentions (Jeong & Block, 2011) and behaviors (Conatser, Block, & Gansneder, 2002) to include. The combination of factors from the two theories may provide for explaining greater variance in intentions and behaviors of physical education teachers' inclusion practices.

The use of SET and TPB theories in inclusion research thus far has provided valuable groundwork for beginning to understand variables that influence physical education teachers' behaviors in inclusion. However, their use of a single theoretical model has explained less than desirable amounts of variance in behavior (from 23% in Jeong's study to Taliaferro's 20.5%). Conatser et al., had relatively better success in their results with the TPB model accounting for 51% of the variance in behavior, however the participants were aquatic instructors and the results cannot be generalized to physical

education teachers (Conatser, et al., 2002). According to Rhodes and Nigg (2011), combining behavioral theories may be instrumental in improving explanatory power. It is therefore the purpose of this project to identify potential factors affecting GPE teachers' inclusive behaviors based upon an augmentation of two theoretical perspectives, Bandura's SET and Azjen's TPB.

Research Questions

The following research questions were examined:

Research Question 1.

Does a proposed model using SET and TPB predict physical education teachers' inclusion behaviors?

Research Question 2

What are the factors influencing physical education teachers' behaviors in including students with autism spectrum disorder in their general physical education classes?

Research Question 3

What are the descriptive characteristics and beliefs of general physical education teachers that are teaching students with autism spectrum disorder in their classes?

Assumptions

The following assumptions were made in this study.

1. Questionnaires for teachers used in this study are capable of providing evidence of valid and reliable scores.
2. All participants answer all questionnaire items honestly.
3. Participants' self-reporting of behaviors are accurate.

Delimitations

1. Schools were selected from the National Center on Education Statistics school search website (http://nces.ed.gov/ccd/schoolsearch/).
2. Participants were recruited from information provided on school websites.
3. Participants' behavior was self-reported.
4. Participation required access to email and the internet.

Limitations

The following were limitations of the study:

1. Return rate was 7.9%-12.9%
2. School districts that required individual institutional review board approval were not included.
3. Participants who volunteered for this study may not be representative of the sample of the population.
4. Physical education teachers' beliefs, intentions, and behaviors were explored in regard to including students with autism, and therefore findings cannot be assumed as generalizable to working with students with other disabilities.

5. Physical education teachers may respond in ways that they feel are more socially acceptable rather than indicating their true beliefs.
6. There may be variation in the extent to which inclusion is implemented in physical education due to inherent differences in teaching practices at various schools.

Definitions

The following are the operational definitions to be used in the study.

1. Attitude. Attitude towards a behavior refers to the degree to which performance of the behavior is positively or negatively valued by an individual (Azjen, 1991).
2. Autism Spectrum Disorder. A developmental disability that affects each person differently and can range from very mild to severe. Symptoms can include language delays, social and communication challenges, and unusual behaviors and interests ("Facts about autism spectrum disorders," 2010).
3. In-service teacher. An individual who is currently teaching in K-12 education.
4. Inclusion. The philosophy of supporting the educational needs of students with disabilities in general education classrooms, including general physical education (Block, 2007).
5. Mastery Experiences. A source of self-efficacy, which involves an individual's past experiences performing a specific task (Bandura, 1997).

6. Perceived Behavioral Control. A person's perception of the ease or difficulty of performing a behavior based on their reflection of external facilitators or barriers (Ajzen, 1991; Jeong & Block, 2011; Terry & O'Leary, 1995a)
7. Physiological States. A source of self-efficacy, which involves an individual's interpretation of their physiological reactions, such as stress or anxiety, as an indication of their performance level (Bandura, 1997).
8. Self-efficacy. "Beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3).
9. Self-efficacy theory. A theory that describes self-efficacy beliefs as influencing individual's behaviors, thoughts, and actions (Bandura, 1997).
10. Social Persuasion. A source of self-efficacy, which involves feedback by others regarding an individual's ability (Bandura, 1997).
11. Subjective Norm. The perceived social pressure to engage or not to engage in a behavior (Ajzen, 1991).
12. Vicarious Experiences. A source of self-efficacy in which individuals observe others who are similar to them model a task and then relatively assess their own capabilities (Bandura, 1997).

Chapter 2. Manuscript 1

The Use of an Integrative Framework to Examine Physical Educators' Inclusion Behaviors

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Abstract

The purpose of this project was to identify potential factors affecting GPE teachers' inclusive behaviors based upon an augmentation of two theoretical perspectives, Self-Efficacy Theory (SET) and Theory of Planned Behavior (TPB). Participants were 151 general physical education teachers from a national random sample whom submitted surveys anonymously online. Results from a hierarchical regression analysis with SET entered into the first step followed by TPB indicated that self-efficacy explained 3.4% of the variance in behavior and the addition of TPB increased the variance explained to 5.3%. However, an examination of individual beta values suggest that SET is the only significant predictor of behavior, therefore the results of this study do not support the use of the integrative framework using both SET and TPB for predicting teachers' inclusion behavior.

The Use of an Integrative Framework to Examine Physical Educators' Inclusion Behaviors

The inclusion of students with disabilities in general physical education (GPE) classes has become a concept and practice that is expected if not always understood. A review of literature suggested that GPE teachers do not possess favorable feelings towards the inclusion of students with disabilities in their classroom (Block & Obrusníková, 2007). The negative feelings appear to stem from a perception of inadequate teacher training, as evidenced by 'lack of preparation' being a predominant complaint by GPE teachers (Hodge, et al., 2009; LaMaster, Kinchin, Gall, & Siedentop, 1998). Despite GPE teachers' feelings, evidence of inclusion as a successful practice in student learning does exist (Klavina & Block, 2008; Lieberman, Dunn, van der Mars, & McCubbin, 2000; Lieberman, Newcomer, McCubbin, & Dalrymple, 1997).

If physical education teachers are feeling underprepared to include students with disabilities into their GPE classes, efforts to provide inclusion training should be taken at the teacher education level. In order to better inform teacher education, it may be beneficial to look closer at teacher behavior. Using behavioral theory to understand physical education teachers' behaviors is not a novel approach, however there is room to improve in regards to how well the theories have been able to explain behavior.

Using theory to understand behavior provides teacher educators and researchers a grounded approach in understanding teacher behavior and factors that influence it. Two prominent behavioral theories, the Self-Efficacy Theory (SET) (Bandura, 1997) and the Theory of Planned Behavior (TPB) (Ajzen, 1991) have been used recently in the physical

education setting. Self-efficacy theory is thought to be a primary determinant of human behavior (Bandura, 1997). According to SET, if a teacher has higher self-efficacy in their ability to include a student with disabilities (such as modify equipment, adapt rules, manage behavior), they will be more likely to carry out those inclusive behaviors. Research that focuses specifically on physical education teachers' self-efficacy for including students with disabilities is relatively new and as a result limited. Hutzler et al. (2005) examined attitudes and self-efficacy of undergraduate pre-service physical education teachers in Israel (N=153) toward the inclusion of students with disabilities. Self-efficacy beliefs were measured using an instrument developed by the researchers, which contained 15 items and covered a variety of disabilities. Participants were asked to rate their "confidence in their ability to provide the child with a disability and his/her peers' optimal learning conditions." Results indicated that those with previous experience teaching students with disabilities had higher self-efficacy beliefs than those with no experience. Additionally, those who were attending a course focused on students with disabilities had significantly higher self-efficacy. Although the study made an important contribution towards our understanding of pre-service GPE teachers' inclusion self-efficacy beliefs, the findings may be limited in generalizing beyond undergraduate pre-service GPE teachers. Further, the study reported that results from an exploratory factor analysis failed to find a meaningful factor structure in the self-efficacy instrument. Therefore, the interpretation of results may need to be cautioned without appropriate validity evidence.

More recently, Taliaferro (2010) presented evidence of validity and reliability for a scale measuring GPE teachers' self-efficacy towards including students with autism. One key difference that Taliaferro included in her study was the delimitation of 'students with autism' or what is more commonly termed autism spectrum disorder (ASD). This point is important, as self-efficacy is a situation specific confidence and by nature there is a large variation of characteristics' of students with disabilities. Therefore, limiting the scope to students with ASD, allows for a more parsimonious use of SET for explaining teachers' inclusion behaviors. Validity evidence was revealed in the results with a one factor solution accounting for 57% of the variance in the self-efficacy scores and reliability estimates indicating a high level of internal consistency (Cronbach's alpha = .93, and test-retest reliability r = .86). In this study, self-efficacy explained 14% of the variance in self-reported behavior. While results are significant and important for the field of inclusion, the variance in behavior explained leaves room for improvement. Therefore, a look into another prominent behavioral theory may provide strength in examining the determinants of teachers' inclusion behaviors.

The Theory of Planned Behavior is a model that attempts to explain the determinants of an individual's decision to enact a particular behavior (Ajzen, 1991). Within TPB, there are four constructs that are posited to influence behavior: attitudes, subjective norm, perceived behavioral control (PBC), and intentions. Under the theory, PBC and intentions directly influence behavior, while intentions are directly influenced by attitudes, subjective norms and PBC. TPB has been used in inclusion research for examining physical education teachers' attitudes towards teaching students with

disabilities (Block & Rizzo, 1995), with more recent works utilizing the theory to explain intentions (Jeong & Block, 2011) and self-reported behaviors of including students with disabilities (Conatser, Block, & Gansneder, 2002). In 2011, Jeong and Block's study of South Korean physical education teachers' inclusion intentions demonstrated evidence to support TPB with 44.3% of the variance in intentions to include students with disabilities explained by three predictors: attitude, social norms and PBC.

The use of SET and TPB theories in inclusion research thus far has provided valuable groundwork for beginning to understand variables that influence physical education teachers' behaviors in inclusion. However, their use of a single theoretical model has explained less than desirable amounts of variance in behavior (from 23% in Jeong's study to Taliaferro's 14%). The use of combining constructs from TPB and SET has been supported in physical activity behavior literature for examining the relative importance of psychosocial factors (Dzewaltowski, Noble, & Shaw, 1990; Hausenblas & Carron, 1997). More recently, physical education researchers also combined TPB and SET in effort to examine teachers' intentions and behaviors for teaching 'physically active' physical education classes (Martin & Hodges Kulinna, 2004; Martin & Kulinna, 2005). According to Rhodes and Nigg (2011), combining behavioral theories may be instrumental in improving explanatory power. It was therefore the purpose of this project to identify potential factors affecting GPE teachers' inclusive behaviors based upon an augmentation of two theoretical perspectives, Bandura's SET and Azjen's TPB.

Methods

Participants

Participants were 151 in-service general physical education (GPE) teachers from a national random sample of public schools in the United States. The mean age of the sample was 46 years old (SD = 9.3, range 25-63). Participants in the study met the following criteria: (a) currently teaching physical education and (b) have taught at least one student with autism spectrum disorder (ASD) in a physical education class. Ninety-nine percent of the participants indicated they were certified to teach physical education in the state they were currently teaching in. In regards to the participants' teaching experience, the mean was 18 years (SD = 9.2, range 1-37), with 70% currently teaching GPE at the elementary level, 29% at the middle or junior high school level, and 18% at the high school level.

Instruments

An online survey was used to measure psychosocial constructs from Self-Efficacy Theory (SET) and Theory of Planned Behavior (TPB). GPE teachers' beliefs, intentions and behaviors to include students with ASD in their class were surveyed using a modified version of instruments previously developed by Jeong and Block (2011) and Taliaferro and colleagues (Taliaferro, Block, Harris, & Krause, 2011). For this study, participants were asked to answer questions in the survey in relation to a description of a student with a moderate level of ASD. It was reasoned that using 'moderate level of autism' as the description was suitable because students with this degree of ASD are more likely to be

present in the GPE setting as opposed to students with more severe levels of ASD, who may not be included in the GPE setting. The description of ASD was modified from the DSM-IV-TR (American Psychiatric Association, 2000) definition to apply to a physical education setting.

The online survey included demographic information, questions regarding self-efficacy, perceived behavioral control, intentions and behaviors. In regards to self-efficacy beliefs, participants were asked to rate their degree of confidence in their ability to perform each of ten tasks when including students with ASD in GPE classes. As per Bandura's (2006) guidelines, participants responded on a scale of 0 to 10, with a score of 0 indicating "cannot do at all," a score of 5 indicating the participant "moderately can do," and a score of 10 indicating the participant is "highly certain can do." In order to score for the measure of self-efficacy, responses were summed across all ten items then divided by the total number of self-efficacy items answered. Scores from the current study indicated acceptable reliability ($\alpha = .92$).

Additionally, a modified version of the survey developed by Jeong and Block (2011) was used to measure constructs included in TPB. The questionnaire included direct and indirect measures of perceived behavioral control (PBC), intention statements, and teaching behavior statements. As recommended by Ajzen, a 7-point Likert-type rating scale was used. Evidence of reliability for direct measures and indirect measures was reported using Cronbach's alpha of .55 and .84 respectively. In the current study, reliability estimates using Cronbach's alpha were .26 for direct measures and .66 for indirect measures.

There were three questions of direct measure for PBC. Scores for direct measures were calculated by finding the mean of item scores. Indirect measures of control beliefs were measured by statements referring to physical educators' perception of controllability of performing a target behavior. In this manner, the participants were indicating the frequency of an external facilitator or barrier and the power it holds over their behavior. To obtain scores for indirect measures, belief scores on a Likert-type scale were multiplied by their relevant evaluation scores. The products were then summed to create an overall belief score, which was then divided by the total number of statements to obtain a final score. Due to lower reliability of direct measures ($\alpha = .26$), this variable was excluded from the main analyses.

There were four questions used to assess intention to include students with disabilities. The questions dealt with the likelihood of a behavior including statements with items such as: (a) I intend to, (b) I will try to, (c) I plan to, and (d) I am determined to teach students with mild autism in my physical education class. These questions also provided responses via a 7-point Likert-type rating scale, and in order to obtain a measure of intention, responses across all four were summed and divided by the total number of intention statements. Reliability estimates were acceptable with .92.

In this study, perceived behavioral control (PBC) was limited to measures of the respondents' beliefs regarding the extent to which performing a behavior is under their personal control. In this manner, control beliefs were assessed as antecedents to PBC, and are concerned with the perceived power of specific, external factors to facilitate or inhibit

performance of a behavior. This distinction is important, as measures of internal control were assessed through items concerned with self-efficacy, such as an individual's belief in their knowledge of effective practices for inclusion.

Finally, behavior was measured based on questions related to GPE teachers' self-reported inclusion behaviors. Questions included instructional and curricular items based on previous research by Jeong and Block (2011), where the quality of the physical educator's behavior is taken into consideration. To this end, questions go beyond asking whether they included a student with ASD, or not, and ask questions such as "how often did you modify…," "repeat directions," etc. Reliability statistics, using Cronbach's alpha indicated acceptable reliability with $\alpha = .83$.

Procedures

The current study used a stratified random sample of general physical education teachers within the United States. In order to account for the variety of geographic regions, the researchers randomly sampled two states from each of the six regions as designated by the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD). The 12 randomly sampled states included: Georgia, Hawaii, Indiana, Kansas, Michigan, Mississippi, Montana, New Hampshire, Nevada, Oregon, South Dakota, and Vermont. A list of public K-12 schools in each of the 12 states was then obtained from the National Center on Education Statistics school search website (http://nces.ed.gov/ccd/schoolsearch/). Next, using the total population for all 12 states and dividing each state's population by the total population, the percent weight of each state was found. Finally, using an oversample size of 3000, the number to be randomly

sampled from each state was found by taking the percent weight of the given state from the total population and calculating the number that corresponded to the state's percent weight of 3000. For example, if Georgia had a percent weight of 25% of the total population, and 25% of 3000 is 750, then 750 schools were randomly sampled from the list of Georgia schools.

After schools were selected, the researchers conducted online searches for school websites and sought physical education teachers' email contact information. If there was email contact information for the school's principal and not for the physical education teacher, then the principal was emailed with a request to forward the information to their physical education teacher. The online search of schools yielded 2004 email contacts.

Following Dillman and colleagues (2009) survey research recommendations, there were four rounds of emails sent. The first email was an initial contact with a short introduction and description of the research, indicating that there would be another email in 2-3 days with a link to an online survey. Of the 2004 emails sent, 116 bounced or came back as a 'mailer daemon,' and 86 were replied to with a request to be removed from the list. There were 1802 emails sent during the second round. This email included a link to the survey along with an incentive to participate in the form of a coupon code to receive 10% off a purchase from a well-known physical education equipment retailer. There were two more emails sent out as follow-ups. The first follow-up was sent one week after the survey email was sent and contained a thank-you for participating as well as a reminder if

they had not yet done the survey. There was a final follow-up and thank you email sent two weeks after the previous.

Participants completed and submitted surveys anonymously online through Survey Monkey. Once participants followed the link provided in the email, they were directed to a cover letter web page. The cover letter provided explanation of the research and their participation whereby they were asked to click the 'continue' button indicating they agreed to participate and begin the survey. There were 233 surveys submitted, indicating a 12.9% return rate. After initial data screening, there were 30 participants that either quit the survey after the first page, or did not meet criteria of 'currently teaching physical education' and 'have taught at least one student with ASD in physical education.' Next, it was determined that surveys with more than 10% of the questions unanswered would be excluded due to the likelihood that these participants either quit the survey or skipped multiple questions.

Data Analysis

Preliminary Analysis. There was some evidence that the data violated the assumption of normality with the variables intentions, self-efficacy, and inclusion behaviors negatively skewed (-2.83, -.61 & -.83 respectively; see table 2.1). As a result, a log transformation that included 'reflecting' then logging the variables was performed (Tabachnick & Fidell, 1989, p. 84). This process created variables that were positively skewed prior to transformation. However, after data transformations, there was no

substantial improvement between the models of transformed data and untransformed data, thus the original, untransformed data were used in the final analysis.

Primary Analysis. The current study utilized hierarchical regression in order to examine the proposed integrative framework's ability to predict inclusion behaviors. Variables were entered in two steps, with participants' self-efficacy beliefs (SET) in the first step and TPB variables entered into the second step. In both steps, the dependent variable was the participants' self-reported inclusion behaviors. The first step regression analysis allows for examination of the variance accounted for from SET. The second regression analysis (second step) includes SET with the addition of TPB variables (intentions & indirect measures of perceived behavioral control), which allows for an examination of the contribution of TPB above and beyond the first group of independent variables (SET).

Results

The results indicate the average score for inclusion behaviors was 5.5 out of 7. Participants' intentions to include students with ASD were slightly higher with an average of 6.66 (also out of 7). Indirect measures of PBC indicated a mean score of 8.7, which was on a scale of -21 to 21. In regards to self-efficacy beliefs, participants' reported an average of 7.8 out of 10. Descriptive statistics and internal consistencies are presented in Table 2.1.

Table 2.1 Descriptive statistics and internal consistencies of constructs measured

	M	SD	Sk.	Ku.	α
Intentions	6.66	.70	-2.83	9.81	.92
Direct Measure PBC	4.37	.97	.31	.67	.26
Indirect Measure PBC	8.70	3.92	.01	-.51	.66
Self-Efficacy	7.8	1.41	-.61	.08	.92
Behaviors	5.5	.97	-.83	.73	.83

Note. PBC = Perceived behavioral control.

Inter-correlations of study variables indicated significant relationships between intentions and indirect measures of perceived behavioral control (PBC) and intentions and self-efficacy. In regards to behaviors, only self-efficacy beliefs were significantly correlated (see Table 2.2).

Table 2.2 Inter-correlations of study variables

	Intentions	DM PBC	IM PBC	Self-Efficacy	Behaviors
Intentions	1.00				
DM_PBC	.13	1.00			
IM_PBC	.38**	.17*	1.00		
Self-Efficacy	.24**	.45**	.38**	1.00	
Behaviors	-.05	.11	.13	.18*	1.00

Note. DM_PBC = direct measure of perceived behavioral control; IM_PBC = indirect measure of perceived behavioral control.
** = Correlation significant at the 0.01 level
*= Correlation significant at the 0.05 level

Hierarchical regression statistics

Although the results of the hierarchical regression models are statistically significant, (SET model, $F(1,149) = 5.25$, $p < .05$, and the combination of SET and TPB model, $F(3,147) = 2.72$, $p < .05$), self-efficacy explained only 3.4% of the variance in behavior, $R^2 = .034$. Adding variables from TPB explained only an additional two percent of the variance, $R^2 = .053$ (see Table 2.3). From the integrated model, using both

SET and TPB, SET appears to be the only significant predictor of teachers' inclusion behavior. Intention and perceived behavior control do not appear to be significant predictors of behavior.

Table 2.3 Results of hierarchical regression on the prediction of inclusion behaviors: Entering the self-efficacy followed by theory of planned behavior

Step	Variable	R^2	F	df	p
1	SE	.034	5.25	1	.02
2	INT IM_PBC	.053	2.72	3	.05

Note. IM_PBC = indirect measure of perceived behavioral control; INT = intention; SE = Self-efficacy.

Table 2.4 Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
Model	Variable	B	Std. Error	Beta	t	p
1	SE	.13	.06	.18	2.29	.02
2	SE	.12	.06	.17	2.0	.05
	INT	-.18	.121	-.13	-1.52	.13
	IM_PBC	.003	.003	.11	1.21	.23

Note. IM_PBC = indirect measure of perceived behavioral control; INT = intention; SE = Self-efficacy.

Discussion

The purpose of this project was to identify potential factors affecting general physical education (GPE) teachers' inclusive behaviors based upon an augmentation of two theoretical perspectives, Bandura's Self-Efficacy Theory (SET) and Azjen's Theory of Planned Behavior (TPB). It was hypothesized that the use of both theories would explain a sufficient amount of variance in teachers' inclusion behaviors. The results do not provide evidence to support the use of this integrative framework. Furthermore, our findings reveal some surprising contrasts to previous studies.

In the present study, three variables were used as predictors of GPE teachers' inclusion behaviors. It was hypothesized that self-efficacy (SE), intentions and perceived behavioral control (PBC) would each directly influence general physical education (GPE) teachers' self-reported inclusion behaviors. However, only one of the three hypothesized predictor variables (SE) was shown to have a significant relationship with behavior (β = .17; $p<.05$). There were no significant relationships found between intentions and behaviors (β = -.13; p = .13) or between PBC and behaviors (β = .11; p = .23).

Consistent with self-efficacy theory, participants' behavior in the current study was influenced by their self-efficacy beliefs. Early research in education has demonstrated that a teacher's sense of competence may account for their behavior and instructional effectiveness (Armor, et al., 1976; Gibson & Dembo, 1984). The research into teachers' self-efficacy and its influence on their inclusion behaviors is relatively new with very few looking specifically at the relationship between beliefs and behaviors. To date, few studies have attempted to quantitatively examine this relationship using a self-efficacy scale and only one has specified inclusion towards students with autism spectrum disorder (ASD) (Taliaferro, 2010). Further, to our knowledge, there have yet to be any studies using true random sampling methods from a nationally representative population. While the results of the current study found that self-efficacy was a significant predictor of behavior (β = .17; $p<.05$), explaining 3.4% of the variance in behavior, it was quite less than Taliaferro's finding (14% of the variance in behavior explained by self-efficacy). One explanation of the difference between results may be attributed to the difference between sampling methods. While the current study used a

random sampling method, Taliaferro and colleagues sample was convenience based, using communication through professional memberships and personal contacts.

The current study utilized the Theory of Planned Behavior (TPB) along with SET in attempt to explain behavior. In inclusion research, Jeong and Block's recent study, using TPB to examine GPE teachers' intentions and behaviors to include students with disabilities showed intentions to have a positive and significant relationship with behaviors, with intention accounting for 21.7% of teachers' self-reported teaching behavior ($p<.01$) (2011). Findings from our study found no significant relationships between the constructs of TPB. These contrasting findings are especially concerning because the present study used a questionnaire adapted from that of Jeong and Block's study. There were two modifications to the questionnaire: 1) a single item from indirect measures of PBC was removed; 2) a student with 'mild autism' was used in place of a student with an intellectual disability. The single PBC item was removed for the current study because it too closely resembled a measure of self-efficacy in that it referred more towards an individual's internal control beliefs rather than their perceived power of specific, external factors to facilitate or inhibit performance of a behavior. Changing the description of the student to be included may have influenced the contrasting results. Additionally, it is possible that a true difference between Korean and American GPE teachers exists. Under TPB, the population of interest should be clearly defined (Ajzen, 2004). Both the current study and Jeong and Block's study were examining physical education teachers that were currently teaching and had previous experience with students with the disability specified (ASD and intellectual disabilities respectively). The

instrument developed for Jeong's study had both Korean and English versions and used experts from both Korea and the United States in the content review process. Furthermore, the current study conducted an expert panel review of content validity in the adapted questionnaire and found all items to be relevant to the population in question. Therefore, the results from this national random sample of GPE teachers in the United States suggest that TPB may not be sufficient for explaining inclusion behaviors in this population.

Previous studies using TPB to investigate teachers' behaviors for including students with disabilities have provided evidence to support the model, however samples of convenience were used (Conatser, et al., 2002; Jeong & Block, 2011). In Jeong's study, physical educators were recruited from various in-service programs, and in Conatser et al., aquatic instructors were recruited from a national swim association membership directory. The current study is unique due to our use of a national random sample.

The results of our study may have been influenced by a small sample size. The initial search for email contacts began with a random selection of 3,000 schools from a random selection of 12 different states from 6 geographic regions. From the web search of 3,000 there were 1802 surveys sent. Initially there were 233 surveys submitted, for a 13% return rate, however after data screening and removing surveys with incomplete information, only 151 surveys were used for analysis. With an n=151, the return rate drops to 8% and can be considered low, however the sample size is not too small based

on recommendations for calculating the minimum sample size required for a significance test of a hierarchical regression (Cohen, 1988; Soper, 2012).

Finally, there are limitations within the study's measurement that should be acknowledged. Item analysis using Cronbach's alpha was conducted to test internal consistency of constructs measured. While reliability for both direct and indirect measures of perceived behavioral control (PBC) were considerably low (.26 and .66 respectively), self-efficacy, intentions, and behaviors all had coefficients of greater than .80, which is considered "very good" (DeVellis, 1991). The lower reliability coefficients may partially explain why PBC did not predict behavior.

Conclusion

The current study makes a unique contribution to the growing body of literature regarding general physical education teachers' inclusion behaviors primarily because it is the first to use a national random sample. Future studies should continue to pursue national random samples and include mailer surveys in addition to online survey methods in effort to reach participants that may not have access to email and online communication. The results in this study suggest self-efficacy to have predictive power in teachers' behaviors, therefore future intervention strategies, such as in-service training, may consider utilizing these constructs.

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Chapter 3. Manuscript 2

Physical Educators' Beliefs and Behaviors Towards Including Students with Autism Spectrum Disorder

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Abstract

With the increase in the presence of students with autism spectrum disorder (ASD) in the general physical education (GPE) classroom, understanding the current state of GPE teachers' beliefs and behaviors for including these students is warranted. The present study aimed to investigate relationships between GPE teachers' beliefs and behaviors for including students with ASD using a national random sample. Participants were 142 current GPE teachers who submitted surveys anonymously online. Results from a regression analysis indicate that teachers' experience, graduate coursework in adapted physical education (APE), and perceptions of strength in undergraduate training in APE significantly predicted their behavior for including students with ASD. Future studies are needed to determine which type of coursework and training at the undergraduate and graduate levels best prepare GPE teachers to include students with ASD.

Physical Educators' Beliefs and Behaviors Towards Including Students with Autism Spectrum Disorder

There has been a steady increase in the number of students with disabilities placed in the general education classroom for the majority of their school day. According to one statistic, the percent distribution of students with disabilities that spent more than 80% of their school day in the general education classroom rose from 31.7% in 1989 to 56.8% in 2007 (U.S. Department of Education National Center for Education Statistics, 2012). There has also been a rise in the incidence of autism spectrum disorders (ASD). The most current reports indicate that ASD now affects 1 in 88 children, which represents a 78% increase in the previous 5 years (Centers for Disease Control and Prevention, 2012). With these figures, it is reasonable to assume that the presence of students with ASD in the general physical education (GPE) classroom has also become common.

Under federal law, brought about by the Individuals with Disabilities Education Act (IDEA) most recently reauthorized in 2004, individuals with disabilities are guaranteed access to free and appropriate public education in the least restrictive environment (LRE) (IDEA, 2004). In regards to physical education, IDEA regulations specify that schools must provide opportunities for students to participate in general physical education classes, or in some cases, specially designed physical education if it has been determined by the Individual Education Program (IEP) team. In general, students with and without disabilities are provided comparable opportunities to participate in physical education (U.S. Government Accountability Office, 2012).

According to the Government Accountability Office (GAO) report, data from the 2005 Youth Risk Behavioral Survey (YRBS), estimates that students with and without disabilities spend similar amounts of time engaged in physical activity per physical education class. It was further reported that most students with disabilities who were enrolled in physical education were taking classes alongside their same-aged peers without disabilities. With the known presence of students with disabilities in the general physical education classroom, efforts to understand teachers' beliefs and behaviors regarding inclusion are warranted. Researchers interested in inclusion have begun to look into relationships between teachers' beliefs and behaviors, however this field is relatively new and gaps in the literature exist.

Behavioral theorists posit that beliefs such as attitudes, confidence, and intentions are indicators of behavior (Ajzen, 1991; Ajzen & Fishbein, 1980; Bandura, 1997). Examining relationships between GPE teachers' beliefs and behaviors towards including students with autism may lend valuable insight into training future GPE teachers. Early research on GPE teachers' attitudes found relationships between previous coursework in disability and attitudes (Rizzo, 1985), and perceived competence and attitudes (Rizzo & Vispoel, 1991; Rizzo & Wright, 1988). More recently, Obrusnikova extended this research, linking perceived competence and adapted physical education coursework (Obrusnikova, 2008). While these studies have provided evidence supporting teacher education as a link to positive attitudes and perceived competence in teaching students with disabilities, perceptions of inadequate training and lack of support are prominent complaints among GPE teachers (Hodge, et al., 2009; LaMaster, et al., 1998; Lieberman,

Houston-Wilson, & Kozub, 2002). Further, there remains a paucity of evidence in regards to teacher's inclusion behaviors and how they are linked to inclusion training, attitudes, confidence, and intentions.

Efforts to link GPE teachers' inclusion beliefs and behaviors have begun to take shape in the literature. Qualitative studies have provided rich description of GPE teachers' beliefs and behaviors relative to inclusion and teaching students with disabilities. Hodge and colleagues' investigation of experienced GPE teachers found participants to hold positive beliefs towards inclusion and regularly interact with their students with disabilities, yet still express lack of training and supports as challenges towards their ability to effectively teach students with disabilities (Hodge, Ammah, Casebolt, LaMaster, & O'Sullivan, 2004). In a similar qualitative investigation, researchers described inclusion behaviors such as 'modification,' and 'verbal interaction' along with varied teacher confidence and preparation (Ammah & Hodge, 2005). These qualitative studies have provided insight into the setting of GPE teachers' inclusion beliefs and behaviors. Relevant next steps of inquiry, in this line of research, are quantitative methodologies.

Teacher behavior in inclusion is a complex construct and in most studies has been captured from self-report questionnaires. Conatser and colleagues found evidence indicating that aquatic instructors' attitudes predicted their intention toward inclusion and their intention predicted self-reported inclusive behavior (2002). However, their use of a single item to measure behavior may not adequately reflect true behavior. More recently,

Jeong and Block (2011) measured teaching behavior through questions regarding specific inclusive teaching practices such as repeating directions, adapting for safety, and providing extra instruction. Results indicated a positive relationship between attitudes, intentions and behaviors, with intentions significantly predicting teachers' self-reported inclusion behaviors. In terms of teachers' confidence beliefs and inclusion behaviors, Taliaferro found evidence of GPE teachers' self-efficacy to include a student with autism predicted behaviors (2010). Similar to Jeong and Block, Taliaferro measured behavior with questions regarding inclusive teaching techniques, such as modifying equipment and providing extra instruction, all of which are commonly accepted as best practice in the field.

Thus far, the literature has supported the existence of relationships between GPE teachers' beliefs and behaviors. However, quantitative examinations investigating predictive relationships between teachers' training and behavior are still missing. Furthermore, to date, there have yet to be studies using random sampling procedures. Due to the use of convenient sampling for the majority of prior research in this field, we have yet to grasp a representative example of what GPE teachers believe and how they behave in relation to including students with disabilities, and more specifically, students with ASD. Therefore, the purpose of the current study was to provide a description of current GPE teachers' beliefs and behaviors towards including students with ASD.

Methods

Participants

Participants were 142 general physical education (GPE) teachers from a national random sample of public schools in the United States. Initial data screening indicated that 30 participants either quit the survey after the first page, or did not meet criteria of 'currently teaching physical education' and 'have taught at least one student with ASD in physical education.' Next, it was determined that surveys with more than 20% of the questions unanswered would be excluded due to the likelihood that these participants either quit the survey or skipped multiple questions.

The mean age of the sample was 46 years old (SD = 9.2, range 25 to 63). Participants in the study met the following criteria: (a) currently teaching physical education and (b) have had taught at least one student with ASD in a physical education class. Ninety-nine percent of the participants indicated that they were certified to teach physical education in their home state. In regards to the participants' teaching experience, the mean was 18 years (SD = 9.3, range 1 to 37), with 69% currently teaching GPE at the elementary level, 29% at the middle or junior high school level, and 18% at the high school level (percentages do not add up to 100 because some indicated teaching at more than one level).

Instruments

An online survey was used to elicit information regarding general physical education (GPE) teachers' beliefs and behaviors regarding the inclusion of students with ASD. For this study, participants were asked to answer questions in the survey in relation to a description of a student with a moderate level of autism. The description of ASD was modified from the DSM-IV-TR (American Psychiatric Association, 2000) definition to apply to a physical education setting.

Participants' confidence in their ability to include a student with ASD was measured using a self-efficacy scale created by Taliaferro and colleagues (Taliaferro, et al., 2011). Participants were asked to rate their degree of confidence in their ability to perform each of ten tasks when including students with ASD in GPE classes. As per Bandura's (2006) guidelines, participants responded on a scale of 0 to 10, with a score of 0 indicating "cannot do at all," a score of 5 indicating the participant "moderately can do," and a score of 10 indicating the participant is "highly certain can do." In order to score for the measure of self-efficacy, responses were summed across all ten items then divided by the total number of self-efficacy items answered. Cronbach's alpha coefficient was used to measure internal consistency of the 10-item scale and it was .92.

The next section of the survey included questions aimed to measure teachers' attitudes, intentions and self-reported behavior towards including a student with ASD. Items were comprised from a modified version of Jeong & Block's instrument measuring

Korean physical education teachers' beliefs and behaviors towards including students with intellectual disabilities (2011). All items on this section of the survey were answered using a 7-point, Likert-type scale. There were three questions of direct measure for attitude, and the score was calculated by finding the mean. Indirect measurement of attitude included measuring behavioral beliefs and outcome evaluations. In other words, participants were asked to respond indicating the likely outcome of the behavior followed by their evaluation of the outcome. To obtain a score for the indirect measure of attitude, belief scores were multiplied by their relevant evaluation scores. The resulting products were then summed across all beliefs to create an overall attitude score. While both indirect and direct measures of attitude were surveyed, only direct measures demonstrated acceptable reliability (direct measures Cronbach's α=.92; indirect measures Cronbach's α=.58). Therefore, only direct measures were included in final analyses.

Four items including statements such as "I plan to include," and "I am determined to include," were used for measuring intentions. Intention scores were calculated by taking the mean score. Internal consistency analysis indicated acceptable reliability (Cronbach's α=.92). Behavior was measured based on questions related to GPE teachers' self-reported inclusion behaviors. Questions included instructional and curricular items, based on previous research by Jeong and Block (2011), where the quality of the physical educator's behavior is taken into consideration. To this end, questions go beyond asking whether they included a student with autism or not and asked questions such as "how often did you modify…," "repeat directions," etc. Reliability analysis on behavior scale items indicated acceptable internal consistency (Cronbach's α=.84).

In addition to basic demographics such as number of years teaching, age, and school level, participants were also asked to rate their perceptions of support from other professionals, including the adapted physical education specialist, the teacher's assistant, the special education teacher and/or the physical therapist. Lastly, participants' training experiences were also surveyed. Of interest were how many adapted physical education courses (both undergraduate and graduate) participants had taken, and how well participants felt these courses prepared them to include students with ASD. Participants were also asked the number of in-service trainings they had attended in which information on ASD was presented.

Procedures

The current study used a random sample of general physical education teachers within the United States. In order to account for the variety of geographic regions, the researchers randomly sampled two states from each of the six regions as designated by the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD). The 12 randomly sampled states included: Georgia, Hawaii, Indiana, Kansas, Michigan, Mississippi, Montana, New Hampshire, Nevada, Oregon, South Dakota, and Vermont. A list of public K-12 schools in each of the 12 states was then obtained from the National Center on Education Statistics school search website (http://nces.ed.gov/ccd/schoolsearch/). Next, using the total population for all 12 states and dividing each state's population by the total population, the percent weight of each state was found. Finally, using an oversample size of 3000, the number to be randomly sampled from each state was found by taking the percent weight of the given state from

the total population and calculating the number that corresponded to the state's percent weight of 3000. For example, if Georgia had a percent weight of 25% of the total population, and 25% of 3000 is 750, then 750 schools were randomly sampled from the list of Georgia schools.

After schools were selected, the researchers conducted online searches for school websites and sought physical education teachers' email contact information. If there was email contact information for the school's principal and not for the physical education teacher, then the principal was emailed with a request to forward the information to their physical education teacher. The online search of schools yielded 2004 email contacts. There were 12 states randomly selected, however, after initial contact was sent, one state required approval from their institutional review board and was therefore unable to participate. Participants from the final sample represented 11 different states with Michigan, Indiana, Georgia and Oregon being the highest numbers (29%, 15.5%, 14.8%, and 14.8%, respectively).

Following Dillman and colleagues (2009) survey research recommendations, there were four rounds of emails sent. The first email was an initial contact with a short introduction and description of the research, indicating that there would be another email in 2-3 days with a link to an online survey. Of the 2004 emails sent, 116 bounced or came back as a 'mailer demon' and 86 were replied to with a request to be removed from the list. There were 1802 emails sent during the second round. This email included a link to the survey along with an incentive to participate in the form of a coupon code to receive

10% off a purchase from a well-known physical education equipment retailer. There were two more emails sent out as follow-ups. The first follow-up was sent one week after the survey email and contained a thank-you for participating, as well as a reminder, if they had not yet done the survey. There was a final follow-up and thank you email sent two weeks after the previous.

Participants completed and submitted surveys anonymously online through Survey Monkey. Once participants followed the link provided in the email, they were directed to a cover letter web page. The cover letter provided explanation of the research and their participation, whereby they were asked to click the 'continue' button indicating they agreed to participate and begin the survey. Prior to screening, 233 surveys were submitted anonymously through Survey Monkey, representing a 12.9% return rate. After data screening, there were 142 participants, therefore, the return rate for usable surveys was, 7.9%.

Analysis

Participants were characterized using descriptive statistics (i.e. means, standard deviation and percentages) and correlations were calculated for all variables. In effort to identify potential factors affecting physical education teachers' inclusion behaviors, a multiple regression was employed. Teachers' behavior was the dependent variable and the independent variables were teachers' (a) years of experience teaching, (b) self-efficacy beliefs for including students with ASD, (c) number of undergraduate adapted physical education courses, (d) number of graduate adapted physical education courses, (e) perception of the strength of their undergraduate training for inclusion, (f) perception

of the strength of their graduate training for inclusion, and (g) number of in-service trainings with information on ASD.

Results

The purpose of this study was to explore general physical education (GPE) teachers' beliefs and behaviors towards including students with ASD in their classes. In this sample, there was a mean of 18 years experience. In regards to their experience in teaching students with ASD, participants were asked how many they had taught in previous years. It was reported that 58% of the participants taught between one and five students with ASD, and 21% of them taught six to ten students in 2010. For the year 2009, the distribution was similar with 55% reporting to have taught between zero and five students, and 21% reported six to ten students. Participants reported similarly when asked about years prior to 2009, with the majority having taught at least one student with ASD in their GPE classes.

Participants' were asked about their adapted physical education (APE) undergraduate and graduate coursework preparation and how well the classes prepared them for inclusion of students with ASD. The majority of the participants had taken at least one undergraduate APE class (see Table 3.1) and just over half indicated that the class(s) prepared them "very well " or "fairly well" (see Table 3.2). Approximately 27% of the participants had taken at least one graduate course in APE and only 39% indicated that the class(s) prepared them "fairly well." In regards to in-service training over half of the participants had attended at least one in-service that had information on ASD.

Table 3.1 Participant coursework and in-service training

Course Type	None	One class	Two classes	More than Two classes
UG APE	18%	46%	18%	18%
Grad APE	73%	17%	4%	6%
SPED UG or Grad	43%	23%	16%	18%
In-Service	32%	26%	15%	27%

Note. UG APE = undergraduate adapted physical education class; Grad APE = graduate adapted physical education class; SPED UG or Grad = special education undergraduate or graduate class. In-Service = in-service training with information on ASD.

Table 3.2 Participants' perception of how well they were prepared in their undergraduate and/or graduate classes to include students with ASD.

	Not at all	Fairly Well	Very Well
UG Prep	42%	46%	12%
Grad Prep	47%	39%	14%

Note. UG Prep = undergraduate preparation; Grad Prep = graduate preparation

The participants were asked questions regarding their perceptions of support from other professionals that are typically involved in working with students with disabilities in public schools (see Table 3.3). When asked if their school district had an adapted physical education (APE) specialist, 65% reported 'no.' However, of those that did have an APE specialist, 76% felt that they had support from the specialist. In regards to other professionals, a clear majority felt supported by the teaching assistants, special education teachers, and physical therapists. This finding is particularly interesting, as previous studies have indicated that GPE teachers have perceptions of a 'lack of support.'

Table 3.3 Participants' perception of support from other professionals

	Yes	No	Don't Know
Support from TA	72%	22%	6%
Support from SPED	80%	18%	2%
Support from PT	49%	31%	20%

Note. TA = teacher assistants; SPED = special education teacher; PT = physical therapist

In addition to perceptions of support and training for inclusion, participants were asked about their confidence and attitudes towards including a child with ASD in their

GPE classes. A 10-item self-efficacy scale was used to measure teachers' confidence, as self-efficacy is described as a situational confidence (Bandura, 1997). Descriptive data from the measure of self-efficacy indicated that teachers' held generally positive self-efficacy beliefs towards their ability to perform tasks associated with the inclusion of students with ASD (M=7.8, 95% CI 7.6 to 8.1).

In regards to participants' attitudes, descriptive data revealed a mean score of 6.65 on a scale of one to seven (95% CI 6.53 to 6.77). Behavior for including students with ASD was measured using an 8-item scale. Items included behaviors that are associated with inclusion and respondents were asked how often they performed the behaviors (responses were given on a scale of one (not at all) to seven (always)). Results indicated a mean of 5.42 (95% CI 5.26 to 5.59).

Relationships between important variables were also examined. A small but significant relationship was found between participants' self-efficacy and inclusion behaviors ($r=.19$; $p<.05$), as well as their behaviors and their perception of the strength of their undergraduate preparation for inclusion ($r=.18$; $p<.05$) (see Table 3.4).

Table 3.4 Correlation matrix

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.SE	1.00										
2.ATT	.59**	1.00									
3.INT	.31**	.39**	1.00								
4.Beh	.19*	.00	-.06	1.00							
5.Exp	.20*	.08	.12	.32**	1.00						
6.UG_APE	.05	.02	-.15	.06	.03	1.00					
7.GD_APE	.06	-.01	-.10	.19*	.01	.47**	1.00				
8.UG_prep	.14	.15	-.07	.18*	-.11	.25**	.16	1.00			
9.GD_prep	.12	-.11	.03	.14	.14	.17	.39**	.23**	1.00		
10.SPEDsp	.23**	.22**	.14	.01	.12	.07	.05	.02	.05	1.00	
11.Insrv	.23**	.18*	.14	.01	.12	.07	.05	.02	.05	.07	1.00

Note. SE=self-efficacy; ATT=attitude; INT=intention; Beh=behavior; Exp=years of experience teaching physical education; UG_APE=undergraduate coursework in adapted physical education; GD_APE=graduate coursework in adapted physical education; UG_prep=perception of strength of undergraduate preparation for inclusion; GD_prep=perception of strength of undergraduate preparation for inclusion. SPED_sp=perception of support from special education teacher; Insrv=in-service training with information on ASD.
* Correlation is significant at the 0.05 level (2-tailed).
* *Correlation is significant at the 0.01 level (2-tailed).

A regression analysis was employed to determine what factors influenced teachers' self-reported inclusion behaviors. Independent variables included teachers' experience, self-efficacy beliefs, training, and perceptions of strength of training, with the dependent variable as behavior. Results supported the model's ability to reliably predict behavior ($F(7,117) = 3.9$, $p < .01$). However, upon examination of the beta values, only experience, graduate coursework, and perception of undergraduate training were significant predictors of behavior (see Table 3.5).

Table 3.5 Regression analysis coefficients

	Unstandardized Coefficients		Standardized Coefficients		
Variable	B	Std. Error	Beta	t	Sig
Exp	.03	.01	.33	3.59	.00*
SE	.06	.06	.09	1.04	.30
UG_APE	-.05	.04	-.12	-1.04	.29
GD_APE	.17	.08	.25	2.12	.04*
UG_Prep	.23	.11	.19	2.12	.04*
GD_Prep	-.03	.09	-.03	-.31	.76
Insrv	-.02	.03	-.07	-.60	.55

Note. Exp=years of experience teaching physical education; SE=self-efficacy; UG_APE=undergraduate coursework in adapted physical education; GD_APE=graduate coursework in adapted physical education; UG_prep=perception of strength of undergraduate preparation for inclusion; GD_prep=perception of strength of undergraduate preparation for inclusion. Insrv=in-service training with information on ASD.
* P <.05

Discussion

The purpose of this study was to examine the beliefs and behaviors of current general physical education (GPE) teachers' inclusion of students with autism spectrum disorder (ASD) in their classes. Results indicate that while relationships between belief variables such as attitudes, self-efficacy, and perceptions of support exist, the only variables that significantly predict behavior to include students with ASD in this sample were experience, graduate coursework in adapted physical education (APE), and perceptions of strength of undergraduate preparation for inclusion.

Consistent with the known increase in the presence of students with ASD in the general education setting, it was found that over half of those sampled had taught at least one student with ASD in the years 2010, 2009, and prior. Further, nearly a quarter of the

participants reported having taught six to ten students with ASD during those years. Clearly, the need for training in inclusive practices is warranted.

Most physical education teacher education curricula have at least one introductory adapted physical education (APE) class that students are required to complete during their training. While some studies have linked APE coursework with positive feelings towards inclusion (Hodge, 1998; Obrusnikova, 2008), there has also been evidence that teachers feel the need for more than one class (Hardin, 2005). In the current study, the majority of participants had taken at least one undergraduate APE class and 46% indicated that their undergraduate training prepared them "fairly well" to include students with ASD. It is clear, however, that many felt their undergraduate course was not helpful, with 42% reporting "not at all" when asked how well they were prepared to include students with ASD. Results from a regression analysis in the current study provide some evidence to support the claim for more than one class, indicating that after accounting for experience and perception of the strength of undergraduate training, graduate coursework in APE is the strongest predictor of behavior.

Intuitively, it can be understood that training for inclusion will lead to feelings of preparedness and perhaps better practice, yet it remains unclear what specifically is needed in terms of training. In this study, the number of undergraduate APE classes was not related to participants' inclusion behaviors, self-efficacy or attitudes. However, a positive relationship did exist between participants' perception of the strength of their undergraduate training and their inclusion behaviors ($r=.18$, $p<.05$). Future studies should

examine the different types of undergraduate training programs available and how they relate to teachers' beliefs and behaviors for inclusion.

In regards to the types of teacher training available, the concept of disability knowledge in physical education teacher education continues to be partitioned from the standard curriculum and some have argued for a more integrated approach. DePauw and Goc Karp proposed that physical education teacher education program curricula integrate knowledge about disability across courses (1994). Such programs adopt an infusion-based approach where issues around disability and inclusion are inter-woven into the coursework of undergraduate and graduate classes. These infusion-based models have shown to affect students' attitudes positively (Barrette & Fiorentino, 1993; DePauw & Goc Karp, 1994; Hodge, Tannehill, & Kluge, 2003; Kowalski & Rizzo, 1996) and aid in competence development (Hodge, Davis, Woodard, & Sherrill, 2002). Further studies should investigate outcome measures such as teachers' confidence and behaviors for including students with disabilities in relation to the type of training they received in effort to compare and/or evaluate training programs.

The current study found participants' had fairly positive self-efficacy towards including students with ASD, with mean scores of 7.8 on a scale of one to ten (95% CI 7.6 to 8.1). These results reflect those from Taliaferro's previous study using the same self-efficacy survey regarding GPE teachers' self-efficacy for including students with ASD (2010). Using a convenience sample, Taliaferro and colleagues surveyed 264 GPE teachers and found a mean self-efficacy score of 7.83 on a scale of 0 to 10. Results of

self-efficacy beliefs in these studies differed from previous research in physical education, where teachers felt inadequate to include students with disabilities (LaMaster, et al., 1998) and had low confidence in their abilities to include (Ammah & Hodge, 2005). Further investigation regarding factors that influence teachers' self-efficacy should utilize larger, more representative samples, as previous studies are limited in scope of inference.

Teachers' inclusion behaviors were found to have a positive and significant relationship with their inclusion self-efficacy ($r = .19$, $p < .05$). However, the ability of self-efficacy predicting behaviors was not supported. Additionally, behavior in this study was not related to teachers' attitudes towards inclusion or intentions to include. These findings contradict previous studies where beliefs predicted behaviors (Conatser, et al., 2002; Jeong & Block, 2011; Taliaferro, 2010), however, follow-up studies including a larger random sample should be conducted to provide further evidence. In addition to relationships between teachers' beliefs and behaviors, further studies should look into outcome measures such as student behavior and how it relates to teachers' beliefs and behaviors.

Finally, the majority of the teachers in the current study revealed that they felt supported by the special education teacher in their school(s). Their perception of support from the special education teacher was related to their self-efficacy and attitude towards inclusion. Previous studies have suggested that GPE teachers feel a lack of support (LaMaster, et al., 1998; Lieberman, et al., 2002), however results from our study suggest

that support from the special education teacher is readily available. Training future physical educators to work collaboratively with other professionals such as the students' special education teachers may help strengthen inclusive practices in GPE settings.

Although the current study utilized a random sampling design, the final return rate was less than 10% and indicates a large potential non-response bias. The scope of inference for this study is narrow and we are limited to making any inference beyond the participants sampled. Further, it is possible that the responses in the current study may not be representative, as teachers with high levels of self-efficacy beliefs, positive attitudes towards, and interests in inclusion may have been more willing to participate. However, to our knowledge, this is the only study to have collected data from a true random sample.

Conclusion

With the increase in the presence of students ASD in the general physical education classroom, understanding the current state of general physical education teachers' beliefs and behaviors for including these students is of paramount concern. This study has provided a glimpse into what teachers' are faced with in terms of numbers of students, support from other professionals as well as personal confidence. Clearly, teacher education matters. However, questions remain as to what kind of training is best. As the field of research in inclusion moves forward, we must begin to think critically about what it means to include a student with a disability and how we can provide evidence of best practices in teacher education.

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Chapter 4. General Conclusion

The current study makes a unique contribution to the growing body of literature regarding general physical education teachers' inclusion behaviors primarily because it is the first to use a national random sample. The purpose of this project was to identify potential factors affecting general physical education (GPE) teachers' inclusive behaviors based upon the integration of two theoretical perspectives, Bandura's Self-Efficacy Theory (SET) and Azjen's Theory of Planned Behavior (TPB). A secondary purpose was to examine factors contributing to GPE teachers' behaviors, looking into experience and training along with teacher beliefs.

In the first manuscript, it was hypothesized that the use of both theories would explain a sufficient amount of variance in teachers' inclusion behaviors. The results from this study did not provide evidence to support the use of this integrative framework. Only one of the three hypothesized predictor variables (SE) was shown to have a significant relationship with behavior ($\beta = .17$; $p<.05$). There were no significant relationships found between intentions and behaviors ($\beta = -.13$; $p = .13$) or between PBC and behaviors ($\beta = .11$; $p = .23$).

In the second manuscript, we examined the beliefs and behaviors of current general physical education (GPE) teachers' inclusion of students with autism spectrum disorder (ASD) in their classes. Results indicate that while relationships between belief variables such as attitudes, self-efficacy, and perceptions of support exist, the only variables that significantly predict behavior to include students with ASD in this sample were experience, graduate coursework in adapted physical education (APE), and in-service training.

With the increase in the presence of students with ASD in the general physical education classroom, understanding the current state of general physical education teachers' beliefs and behaviors for including these students is of paramount concern. This study has provided a glimpse into what teachers' are faced with in terms of numbers of students, support from other professionals, as well as personal confidence. Clearly, teacher education matters. However, questions remain as to what kind of training is best. As the field of research in inclusion moves forward, we must begin to think critically about what it means to include a student with a disability and how we can provide evidence of best practices in teacher education.

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APPENDICES

APPENDIX A. Review of Literature

The philosophy of inclusion in physical education centers around providing opportunities for students with disabilities to engage in meaningful physical activity alongside their same-aged peers. However, a review of inclusion in physical education literature by Block and Obrusnikova (2007) revealed that general physical education (GPE) teachers do not possess favorable feelings towards the inclusion of students in their classroom. Therefore, it is important to determine and investigate the factors affecting GPE teachers' intentions and behaviors toward including students with disabilities.

The purpose of this literature review is to provide background information on a research study that will examine factors that influence GPE teachers' beliefs, intentions and behaviors toward including students with disabilities in their physical education classrooms. The review will be divided into sections, including: (1) Inclusion conceptualized, (2) Inclusion strategies, (3) The effects of inclusion on students with and without disabilities, (4) General physical education teachers' beliefs toward inclusion, (4) Physical education teacher education and inclusion, (5) The theory of planned behavior, (6) Physical education and the theory of planned behavior, (7) Self-efficacy theory, (8) Self-efficacy and TPB's Perceived Behavioral Control.

Inclusion Conceptualized

There are many philosophies and practices of inclusion. At its very core, inclusion in the school setting is a merging of special education and general education (Block,

2007). A widely accepted philosophy of inclusion, which can be seen throughout adapted physical activity resources, is concerned with the acceptance of all people regardless of differences (Sherill, 2004; Winnick, 2011). The National Center on Physical Activity and Disability presents a model of inclusion using Schleien, Green, and Stone's continuum of three levels of acceptance (1999). The levels include physical integration, functional inclusion, and social inclusion. Within each level, concepts such as accessibility to physical environments, as well as participation in positive interactions, are addressed.

Inclusion has also been viewed of as a philosophy, process, or product (Sherill, 2004). In the physical educational setting, inclusion typically refers to educating students with and without disabilities in the general physical education environment (Block, 2007). The setting and supports employed depend upon a student's educational needs as well as the availability of resources (i.e. equipment, aides, consultants).

Inclusion Strategies

Inclusion strategies have been investigated throughout the past few decades. There is evidence of positive outcomes when trained peer tutors are utilized (Houston-Wilson, Dunn, van der Mars, & McCubbin, 1997; Klavina & Block, 2008; Lieberman, et al., 2000; Vogler, Koranda, & Romance, 2000). In a study analyzing the effects of trained peer tutors on the physical activity levels of deaf students, researchers found an increase in moderate to vigorous physical activity (MVPA) in both the deaf students (from 22% to 41.5%) and the peer tutors (from 19% to 37.9%) in an inclusive physical education class (Lieberman, et al., 2000). In a similar study, researchers investigated the effects of trained

peer tutors on the motor performance of children with developmental disabilities in an inclusive physical education class (Houston-Wilson, et al., 1997). Both studies aid in demonstrating that peer tutors, given similar circumstances, can provide assistance and individual attention where GPE teachers are often supervising many students and providing individual attention to a student with a disability is not always feasible.

Trained professionals, such as adapted physical education (APE) specialists, can be another source for successful inclusion. A case study, designed to evaluate the effectiveness of an inclusive physical education class in which an APE specialist was employed full time to provide instruction for a kindergartener with a severe disability, provided supportive evidence for inclusion (Vogler, et al., 2000). Data gathered from systematic observation of engagement (as measured by academic learning time in physical education (ALT-PE)) of all students revealed that the student with a severe disability was engaged (motor-appropriate) in 41% of the observed intervals and his peers' percentage ranged from 45%-50%. Interviews of both students and teachers involved in the study were conducted and themes of "social acceptance" and "motor performance capability" emerged. Results of the study indicate that a "people" resource model using a certified, trained, and experienced adapted physical educator as a full-time resource is highly desirable. This example of inclusion with a highly-desirable scenario, while not always feasible at least provides support for inclusion given adequate resources.

The Effects of Inclusion on Students with and without Disabilities

There have been studies demonstrating that including students with disabilities does not have any negative effects on the learning of students without disabilities. Additionally there is evidence that including students with autism does not significantly affect overall physical activity in a GPE class (Kodish, Hodges Kulinna, Martin, Pangrazi, & Darst, 2006). A comparison of an inclusive class with a student with a physical disability and a non-inclusive class, revealed that there was no difference in students' mean knowledge and motor skills scores – both had improved (Obrusníková, Válková, & Block, 2003).

When modifications are properly implemented and everyone is experiencing success, students without disabilities are more receptive towards accommodating for their peers with disabilities (Kalyvas & Reid, 2003). However, it should be noted that not all inclusion experiences are positive. There are reports that interaction between students with and without disabilities in an inclusive setting are limited, which can result in negative experiences and limited social development opportunities (Goodwin & Watkinson, 2000; Place & Hodge, 2001). In another qualitative look into experiences of inclusion from the participants' perspective, similar components of positive - or less than positive - feelings were highlighted with the actions of others playing as a prominent feature (Spencer-Cavaliere & Watkinson, 2010). Taken together, studies that explore participant experiences demonstrate commonality in positive and negative themes, and can provide guidance for researchers and practitioners aiming for successful inclusion.

The studies mentioned here have provided valuable evidence for effective inclusion practices in general physical education. When appropriate supports are in place and student participant perspectives are acknowledged, all students can experience success. However, resources such as APE specialists and assistants are not always available, therefore the GPE teacher often has added responsibilities and may not be knowledgeable or equipped with proper supports. In this regard, the GPE teacher's role and their beliefs and behaviors are integral for inclusion and will be discussed in the next section.

GPE Teachers' Beliefs towards Inclusion

As presented in the previous section, including students with disabilities in general physical education (GPE) can be successful, provided the proper supports are in place. However, GPE teachers have continued to express varied feelings towards the practice of inclusion. To begin with, studies that have provided evidence linking teacher beliefs to both student-related (i.e. disability type) and teacher-related (i.e. experience) variables will be discussed. The teacher-related beliefs discussion will be extended with a look into their perceptions of preparation and training for inclusion.

Investigations into GPE teacher beliefs towards including students with disabilities have found evidence of relationships between teacher attitudes (belief-based) and student-related variables, such as disability type. One of the first studies to examine GPE teachers' attitudes found more favorable attitudes towards teaching students with learning disabilities (LD) than teaching those with physical disabilities (Rizzo, 1984;

Short & Winnick, 2005). Later, Rizzo and Vispoel (1991) found similar results with attitudes towards teaching students with LD significantly more favorable than students with mild mental retardation and behavior disorders.

Even more recently, a study extending the previous attitude research found physical educators held more positive beliefs about teaching students with LD and less positive beliefs towards teaching those with emotional and behavioral disorders (Obrusnikova, 2008). However, it should be noted that not all findings support more positive attitudes toward including children with cognitive limitations (Schmidt-Gotz, Doll-Tepper, & Lienert, 1994; Tripp, 1988). For example, Schmidt-Gotz and colleagues surveyed German physical education teachers' attitudes and found that they had more favorable attitudes for including students with physical disabilities or sensory impairments and less favorable attitudes for including students with intellectual disabilities (1994).

Another student-related variable, level of disability, has been studied in relation to teacher attitudes. In general, there is agreement that physical educators have more positive attitudes towards teaching students with mild disabilities than teaching those with severe disabilities (Casebolt & Hodge, 2010; Conatser, et al., 2002; Hodge, Ammah, Casebolt, Lamaster, & O'Sullivan, 2004). These reports are not surprising, in that the primary focus of many physical education curricula is motor and movement skill acquisition and GPE teachers may perceive the GPE class setting to place too many physical demands on those with severe and/or physical disabilities. Conatser and

colleagues examined aquatic instructors' beliefs about teaching swimming to individuals with disabilities in inclusive settings (2002). Results indicated aquatic instructors had more favorable beliefs toward teaching inclusive swim classes to students with mild disabilities compared to teaching students with severe disabilities (Conatser, et al., 2002). Further, the aquatic instructors reported that in the 5 years prior, they had almost always included students with mild disabilities and in effect, never included students with severe disabilities.

Teacher-related variables, such as gender, experience, and number of years teaching have been examined in a number of studies. Some evidence exists to support the claim that, in general, female teachers hold more favorable beliefs than their male counterparts toward teaching students with disabilities (Folsom-Meek, Groteluschen, Krampf, & Nearing, 1999; Tringo, 1970). However, the research is limited and not conclusive, as some have found no evidence to link teacher gender and beliefs (Tejeda-Delgado, 2009). Perhaps the question of teacher gender is not as important as other teacher-related variables that are more malleable, such as experience.

Intuitively, it might be assumed that a physical educator with more years of experience teaching will have more favorable attitudes towards inclusion than their less-experienced counter parts. However, in Obrusnikova's 2008 study, no significant relationship was found between GPE teachers' beliefs towards inclusion and their number of years teaching general physical education classes. Furthermore, a look into experienced physical educators' beliefs about inclusion revealed "wavering beliefs" –

essentially both favorable and unfavorable (Ammah & Hodge, 2005). While both studies take into account the number of years teaching, this variable alone does not appear to hold determinant power in their beliefs towards inclusion. Looking beyond gender and number of years teaching, it's possible, and not surprising, that a more revealing teacher-related variable is prior experience and/or training in working with students with disabilities.

There is substantial evidence to support that teachers' experience working with students with disabilities is positively related to favorable beliefs towards inclusion (Block & Rizzo, 1995; Casebolt & Hodge, 2010; Obrusnikova, 2008; Rizzo & Vispoel, 1991). In an analysis of high school GPE teachers' beliefs about teaching students with mild to severe disabilities in an inclusive setting, Casebolt and Hodge (2010) found teachers' with higher levels of knowledge from formal training plus informal, self-help training and varied experiences reported higher levels of confidence and effectiveness. Block and Rizzo (1995) examined the relationship between attitudes toward teaching students with severe or profound disabilities and teacher attributes, including training and coursework, and found that favorable attitudes towards teaching students with severe disabilities were associated with coursework in adapted physical education and quality of teaching experience.

On the contrary, negative beliefs towards inclusion appear to stem from a sense of lack of training and experience (LaMaster, et al., 1998; Lieberman, Houston-Wilson, & Kozub, 2002). Elementary physical education teachers have expressed frustration and

lack of training for including individuals with disabilities (LaMaster, et al., 1998). Looking more closely into physical education teachers' preparation, themes of opportunity emerge. Coursework is considered of high importance, along with opportunities for teaching experiences with students with disabilities (Hardin, 2005).

In conclusion, it appears that both student-related and teacher-related variables can be associated with GPE teacher's beliefs towards inclusion. Teacher training and opportunities to work with individuals with disabilities have been seen as important components in inclusion. In this regard, the next section will further explore physical education teacher education with a look into teachers' pre-service experiences and beliefs.

Physical Education Teacher Education and Inclusion

Teacher education programs often offer programs and field experiences that address cultural diversity, and the segregation of students with different racial and ethnic backgrounds is no longer tolerated. However, the education of teachers to include students with diverse abilities and special educational needs is minimal. As evident in most teacher education programs, separation is perpetuated by the notion that special educators are trained to address students with disabilities while general educators focus on the whole class (Welch, 1996).

The concept of disability knowledge in physical education teacher preparation has also been partitioned from the standard curriculum and some have argued for an integrated approach. DePauw and Goc Karp proposed that physical education teacher

education (PETE) program curricula integrate knowledge about disability across courses (DePauw & Goc Karp, 1994). Such programs adopt an infusion-based curriculum where issues around disabilities are inter-woven into the coursework of undergraduate and graduate classes. These infusion-based models have shown to affect students' attitudes positively (Barrette & Fiorentino, 1993; DePauw & Goc Karp, 1994; Kowalski & Rizzo, 1996) and aid in competence development (Hodge, Davis, Woodard, & Sherrill, 2002). However, an infusion-based approach to teacher education has yet to be considered common practice as evidenced by most programs offering 'adapted' physical pedagogy courses as separate from the PETE curriculum coursework.

The coursework required and the field experience varies among teacher education programs. Generally pre-service teachers are provided opportunity to work with and teach students under a supervising teacher. Upon exploring the needs of pre-service teachers, Romi and Leyser (2006) found that experience working with students with disabilities was associated with higher self-efficacy scores. Introduction to adapted physical education (APE) courses, along with field experience, is a common combination within the curriculum of prospective GPE teachers. Hodge (1998) found attitudes of pre-service PE teachers towards teaching students disabilities can be positively impacted within an introduction to APE class with and without an accompanying practicum. More recently, Obrusnikova found evidence that APE coursework was a significant predictor of GPE teachers' positive beliefs about teaching children with disabilities and positively correlated with their perceived competence (2008). In contrast, Martinez (2003) found that a graduate-level introduction to special education course did not have an influence on

general education post-baccalaureate/Master's-level students' attitudes toward inclusion, nor on their perceptions of efficacy. However, it was reported that narratives from interviews of the participants revealed positive attitudes, along with increased knowledge and confidence to include students with disabilities and adapt instruction (Martínez, 2003). In addition, pre-test scores showed that the students held positive attitudes and high teaching self-efficacy beliefs prior to the course. Despite some conflicting evidence, there still appears to be more support for including classes and experience in working with individuals with disabilities within teacher education programs.

The Theory of Planned Behavior

The Theory of Planned Behavior (TPB) (Ajzen, 1991) was developed to predict and explain human behavior in specific contexts and has received attention in a variety of disciplines including health and physical activity behaviors and more recently physical education (Armitage & Conner, 2001; Hausenblas & Carron, 1997; Kozub & Lienert, 2003). A central factor in TPB is intention, which is assumed to capture motivational factors influencing behavior. The theory proposes a model in which the three belief constructs of attitudes, subjective norms and perceived behavioral control predict a person's intentions to perform a specific behavior. Under TPB, intentions are the precursors of behavior. In this section, research from the field of physical education will be discussed.

Physical Education and the Theory of Planned Behavior

In the field of physical education the TPB has been applied to investigate factors affecting teachers' intentions and behaviors. Martin and Kulinna (2004) examined antecedents of physical education teachers' perceived behavioral intention towards teaching a highly active physical education class. Results indicated that teachers with favorable attitudes towards teaching highly active classes were more likely to report strong behavioral intentions toward teaching physically active classes than teachers with less favorable attitudes. Results also provided strong support for the use of TPB, with it accounting for 59% of the variance in intention.

The use of TPB has also been supported for application in framing interventions in the field of physical education. In a recent study, physical education teachers' perceptions of teaching a new physical activity curriculum were examined before and after a mentoring-based professional development intervention (Hodges Kulinna, et al., 2008). The authors sought to examine how mentoring may influence teachers' thinking, more specifically their intentions, behaviors, attitudes, subjective norms and perceptions of control regarding teaching the new curriculum. Teachers in the treatment group received training and mentorship including workshops where curriculum was discussed and practiced. Results showed evidence of a difference between groups (treatment vs. control) with improvement in attitudes and perceived behavior control towards teaching the new curriculum (repeated measures ANOVA showed significant Group x Time interaction, $F\,(2, 43) = 30.35$, $p < .01$, $\eta = .59$ for attitudes and $F\,(2, 43) = 31.27$, $p < .01$, $\eta = .59$ for perceived behavioral control). Authors also reported a significant Group x

Time interaction in teachers' intentions to teach the new curriculum $F(2,43) = 42.52$, $p < .01$, $\eta = .66$, and teaching intentions appeared to have led to more teaching behaviors (ANCOVA results $F(2,41) = 34.96$, $p<.01$, $\eta = .63$) (Hodges Kulinna, et al., 2008).

The use of theory to investigate physical education teachers' beliefs has also been employed when looking into the inclusion of students with disabilities. General Physical Educators' beliefs towards inclusion have been examined extensively using Ajzen and Fishbein's Theory of Reasoned Action (TRA) (1980). Much of this research has focused on GPE teachers' attitudes toward teaching students with disabilities (Rizzo, 1984; Rizzo & Kirkendall, 1995; Rizzo & Vispoel, 1991). The TPB is an extension of TRA in that it adds the construct of perceived behavioral control, which confronts the original model's limitations in dealing with behaviors in which the individual does not have complete volitional control (Ajzen, 1991). Some inclusion researchers have taken note, and begun to utilize the TPB to better understand beliefs and practices of GPE teachers.

The TPB has been recently applied in examinations of GPE teachers' beliefs and behaviors. Conatser and colleagues (2002) found evidence supporting the use of the model. Findings indicated that aquatic instructors' intention toward inclusion significantly predicted inclusive behavior as measured by a self-report of behavior. Additionally, in this study, results showed perceived behavior control was shown as the best predictor for intention, explaining 34% of the variance for including students with mild disabilities and 47% for students with severe disabilities. The second best predictor for intentions to include students with mild and severe disabilities was attitudes,

explaining 13% and 14% of the variance respectively. Subjective norms significantly predicted intention for including students with severe disabilities, yet the variance explained by this factor was only 2%.

In effort to expand on Conatser's work, Jeong and Block provided evidence to support the use of TPB for explaining GPE teachers' intentions toward teaching students with disabilities (Jeong & Block, 2011). In their study, the researchers address both direct and indirect measures. According to TPB, with the exception of behavior, the variables are internal and can be measured directly (i.e. asking a participant about his/her overall attitude) and indirectly (i.e. asking about his/her specific behavioral beliefs and outcome evaluations). Indirect and direct measures make different assumptions about the underlying cognitive structures and processes of the variables, and it is therefore recommended to include both in the development of TPB questionnaires (Francis, et al., 2004). Following this recommendation, Jeong and Block found both direct and indirect measures predicted physical educators' intention to teach students with disabilities, explaining 35.4% and 44.3% respectively.

The inclusion research guided by TPB is relatively new, yet there are results supporting its use. The theory of Self-Efficacy (SET) (Bandura, 1997) has also been used in the fields of physical activity, physical education, and inclusion. In the next section SET will be discussed both in terms of its construct and use in the literature.

Self-Efficacy Theory

According to Bandura, efficacy beliefs are a major basis of action and perceptions of self-efficacy refer to an individual's beliefs in their own capabilities to organize and carry out the necessary actions to produce a given attainment (1997). Thus, under the theory of self-efficacy, the beliefs one holds in regards to their ability to accomplish a task will affect their level of motivations, affective states and actions.

The role of self-efficacy in teaching has garnered interest in areas of research and practice. Teachers' sense of efficacy in the promotion of student learning was identified in 1976 as one of the few characteristics related to student achievement. In a study by the RAND corporation, researchers added two items to a questionnaire administered to teachers and found powerful results, which resulted in the concept of teacher efficacy (Armor, et al., 1976).

Four main processes develop self-efficacy beliefs: enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states (Bandura, 1997). Enactive mastery experiences are considered the most effective and influential process in the development of self-efficacy. These experiences serve as indicators of one's ability to accomplish a given task. Vicarious experiences are another source of information about one's capabilities. People will appraise their own capabilities in relation to the attainments of others. In the case of verbal and social persuasion, self-efficacy can be bolstered if significant others provide positive feedback, expressing belief in one's capabilities to accomplish the task at hand. Physiological and affective states are

types of somatic information used in a person's judgment of their own capabilities. For example, in stressful situations, a person's physiological response may be an indicator of vulnerability to dysfunction. Interventions aimed at improving efficacy beliefs have demonstrated positive results when these major antecedents are addressed.

Martin and colleagues utilized a social cognitive theory-based intervention, which aimed to increase general physical education teachers' self-efficacy beliefs to teach physically active classes (Martin, et al., 2009). The intervention included opportunities for mastery experiences, along with verbal persuasion and vicarious experiences by pairing novice teachers with experienced teachers while learning how to teach a physical activity curriculum. Results indicated that the intervention teachers' efficacy beliefs improved relative to the comparison group, providing evidence in support of the intervention and professional development training in physical activity curriculum.

Changes in teachers' self-efficacy also appear to occur more readily during the early stages of teaching. Congruent with Bandura's theory of self-efficacy, where efficacy is more malleable early in learning, Hoy and Spero found evidence that efficacy rose during teacher preparation and student teaching, but fell with actual experience as a teacher (Hoy & Spero, 2005). In this respect, effort in increasing efficacy during teacher education and maintenance of efficacy beliefs during in-service may be warranted.

Since its initial conception, teacher efficacy has been further examined and developed. From Bandura's social cognitive theory and his construct of self-efficacy, grew a second strand of the concept of teacher efficacy. As a unique concept of human

control, self-efficacy describes a distinction between competence and contingency (Bandura, 1997; Skinner, 1996). In other words, under self-efficacy, a person makes judgments about their ability contingent upon the task at hand. The consideration of contingency relationships, in the form of judgments about the requirements of the teaching task, is argued by Tschannen-Moran and colleagues, to be an important factor in teacher efficacy and they have presented a model in effort to clarify the concept and measure of teacher efficacy. Under this model, "teacher efficacy is the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran, Hoy, & Hoy, 1998, p. 233). A discussion into the distinction between self-efficacy and teacher efficacy is beyond the scope of this review, however it should be noted that debate on capturing the construct exists (Tschannen-Moran & Hoy, 2001).

In terms of teachers' sense of efficacy towards inclusion, research is relatively new and, as such, limited. Scales of GPE teachers' self-efficacy in inclusion have recently been developed with mixed results. Hutzler and colleagues attempted to measure self-efficacy of pre-service physical education teachers toward the inclusion of students with disabilities following Bandura's framework (2005). However, results from a principal component factor analysis did not find any meaningful factor structures. The findings may be due to the authors' lack of adherence with Bandura's guidelines for scale development. For example, a rating scale of 1 to 4, with 1 indicating "not agree at all" and 4 indicating "absolutely agree," was used as opposed to Bandura's recommended scale of 1 to 10 (1997). Additionally, on Hutzler's instrument, disability type was not

specified or defined, which may have influenced the insignificant findings due to the nature of self-efficacy being situation and task specific. Taliferro (2010) extended the self-efficacy scale development by implementing methods more congruent with accepted guidelines.

In the development of the Physical Educators' Self-efficacy Toward the Inclusion of Students with Disabilities-Autism (PESEISD-A), Taliaferro presented evidence for validity and reliability of the instrument along with support for self-efficacy (SE) as a significant predictor of self-reported behavior (SE explained 14% of the variance in behavior). Validity evidence was revealed in the results of an exploratory factor analysis with a one factor solution accounting for 57% of the variance in self-efficacy scores and reliability estimates of high level of internal consistency (Cronbach's alpha = .93, and test-retest reliability r=.86).

The measurements of self-efficacy discussed here provide an initial look into what has been done, along with notes on where improvements are needed. As noted, the estimation of teachers' inclusion behaviors through the use of behavioral theories has been approached with somewhat limited findings. There is speculation that combining theories may be warranted in order to gain greater explanatory power in explaining and predicting behavior (Rhodes & Nigg, 2011). The next section will introduce the use of the Theory of Planned Behavior and Self-Efficacy Theory by providing evidence that distinguishes the constructs.

Perceived Self-Efficacy and TPB's Perceived Behavioral Control

In Azjen's original depiction of the TPB, he argues that perceived behavioral control (PBC) and self-efficacy (SE) constructs are interchangeable (Ajzen, 1991). However, several researchers have contested this idea (Bandura, 1986, 1992; Dzewaltowski, Noble, & Shaw, 1990; Terry & O'Leary, 1995b). In Dzewaltowski's study of physical activity behaviors, evidence of the distinction between the two constructs was revealed through analysis of physical activity prediction. Perceived behavioral control (PBC) was measured by questions that addressed participants' perception of control over their participation in physical activity and SE was measured based on questions designed to elicit participants' confidence based on internal factors such as their confidence or certainty that they could participate in physical activity if a barrier was present. Findings indicated that intention predicted physical activity participation, F (1,249) = 27.64, p<.001 where PBC did not add to the prediction. Further, SE, along with self-evaluation of participation, was found to significantly predict PA participation, F (4,246) = 16.38, p<.001. Therefore, the two separate constructs were supported as SE and not PBC had a direct effect on behavior.

More recently, Foley and colleagues had similar results with differential effect of SE and PBC in explaining PA intentions and behaviors. Self-efficacy was a strong predictor of behavior but not of intentions, and PBC was the strongest individual predictor of intentions but the weakest predictor of behavior (Foley, et al., 2008). These results, along with prior work, support the conceptual distinction between SE and PBC.

In conclusion, the augmentation of TPB and SE may provide for a greater predictive usefulness in behaviors when examining physical education teachers' beliefs, intentions and behavior towards including students with autism.

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APPENDIX B. Initial Email

Dear Physical Educator,

My name is Jennifer Morgan, and I am a doctoral candidate in Movement Studies in Disability at Oregon State University. I am conducting a study titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes. The purpose of this study is to examine the factors affecting physical education teachers' inclusion intentions and behaviors.

As you may be aware, many children with autism are included in general physical education and some teachers may have a difficult time including them in their classes. We want to better understand what factors are affecting physical education teachers' intention and behavior for including these children. We are interested in this because we believe understanding the important factors' affecting your behavior may help future physical education teacher training as well as your fellow physical educators.

You have been randomly selected from a national sample to participate in this study. Since we are selecting only a small number of physical education teachers, your help is very important to us. Your participation will require you to respond to an online survey, which will take approximately 30 minutes of your time.

An invitation email with a link to the survey will be sent to you within the next few days.

Thank you in advance for your time and consideration. Further directions will be sent in the invitation email, which should arrive within one week. If you have any questions, please feel free to contact me at Jennifer.Morgan@oregonstate.edu

Thank you very much for your help. As a token of appreciation for your participation, please accept this coupon code good for 15% off any purchase from

Gopher Sport: **G-1512**. Gopher Sport is a physical education, fitness and sport equipment company. Redeem your gift at checkout at: www.gophersport.com

Best Regards,

Jennifer Morgan

If you have questions about the study, contact:
Researcher:
Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
Jennifer.Morgan@oregonstate.edu

OR
Principal Investigator:
Heidi Wegis, PhD
Physical Education Teacher Education
College of Public Health and Human Sciences
Oregon State University
123 Women's Building
Corvallis, OR 97331
Telephone: (541) 737-9932
Heidi.Wegis@oregonstate.edu

APPENDIX C. Initial Email for Principal

Dear School Principal,

My name is Jennifer Morgan, and I am a doctoral candidate in Movement Studies in Disability at Oregon State University. I am trying to contact your school's physical education teacher and ask your help in forwarding the information and request for participation. I would greatly appreciate if you send the information below to your physical education teacher. There will be additional emails sent and your cooperation in forwarding them to the physical education teacher is kindly appreciated.

Dear Physical Educator,

My name is Jennifer Morgan, and I am a doctoral candidate in Movement Studies in Disability at Oregon State University. I am conducting a study titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes. The purpose of this study is to examine the factors affecting physical education teachers' inclusion intentions and behaviors.

As you may be aware, many children with autism are included in general physical education and some teachers may have a difficult time including them in their classes. We want to better understand what factors are affecting physical education teachers' intention and behavior for including these children. We are interested in this because we believe understanding the important factors' affecting your behavior may help future physical education teacher training as well as your fellow physical educators.

You have been randomly selected from a national sample to participate in this study. Since we are selecting only a small number of physical education teachers, your help is very important to us. Your participation will require you to respond to an online survey, which will take approximately 30 minutes of your time.

An invitation email with a link to the survey will be sent to you within the next few days.

Thank you in advance for your time and consideration. Further directions will be sent in the invitation email, which should arrive within one week. If you have any questions, please feel free to contact me at Jennifer.Morgan@oregonstate.edu.

Thank you very much for your help. As a token of appreciation for your participation, please accept this coupon code good for 15% off any purchase from

Gopher Sport: **G-1512**. Gopher Sport is a physical education, fitness and sport equipment company. Redeem your gift at checkout at: www.gophersport.com

Best Regards,

Jennifer Morgan

If you have questions about the study, contact:

Researcher:
Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
Jennifer.Morgan@oregonstate.edu

OR
Principal Investigator:
Heidi Wegis, PhD
Physical Education Teacher Education
College of Public Health and Human Sciences
Oregon State University
123 Women's Building
Corvallis, OR 97331
Telephone: (541) 737-9932
Heidi.Wegis@oregonstate.edu

APPENDIX D. Physical Educator Invitation Email

Dear Physical Educator,

A few days ago, I sent you an email about a research study I am currently conducting. The study is titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes.

When I was teaching physical education, I learned that including children with disabilities is not an easy task. Considering the recent trend towards including more and more children with disabilities in the general education setting, I want to help fellow physical education teachers. I am interested to find out the factors affecting general physical education teachers' intentions and behaviors towards including students with autism in their physical education classes.

Now, I would like to formally invite you to participate in this research study by clicking on the link below and filling out an on-line survey that has been created using Survey Monkey.

Should you decide to participate, your responses to the survey questions will be handled confidentially. You can choose to withdraw from the study at any time you want. If you would like to withdraw before you have submitted the survey, simply do not complete the survey.

If you would like to participate, please click the link below where you will be directed to a webpage that contains a consent agreement, which you are asked to read carefully before you decide to participate.

If you have any questions please feel free to contact me at jennifer.morgan@oregonstate.edu

Best regards,

Jennifer Morgan

To enter the survey, click on the link below:

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

Researcher:
Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
jennifer.morgan@oregonstate.edu

Principal Investigator:
Heidi Wegis, PhD
Physical Education Teacher Education
College of Public Health and Human Sciences
Oregon State University
123 Women's Building
Corvallis, OR 97331
Telephone: (541) 737-9932
Heidi.Wegis@oregonstate.edu

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

APPENDIX E. Email Invitation - Principal's

Dear Principal,

I recently sent you an email about a research study I am conducting regarding physical education teachers' intentions and behaviors towards including students with disabilities. I would like to again ask you to forward the message below to your school's physical education teacher. Thank you in advance for your time and consideration.

Dear Physical Educator,

A few days ago, I sent you an email about a research study I am currently conducting. The study is titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes.

When I was teaching physical education, I learned that including children with disabilities is not an easy task. Considering the recent trend towards including more and more children with disabilities in the general education setting, I want to help fellow physical education teachers. I am interested to find out the factors affecting general physical education teachers' intentions and behaviors towards including students with autism in their physical education classes.

Now, I would like to formally invite you to participate in this research study by clicking on the link below and filling out an on-line survey that has been created using Survey Monkey.

Should you decide to participate, your responses to the survey questions will be handled confidentially. You can choose to withdraw from the study at any time you want. If you would like to withdraw before you have submitted the survey, simply do not complete the survey.

If you would like to participate, please click the link below where you will be directed to a webpage that contains a consent agreement, which you are asked to read carefully before you decide to participate.

If you have any questions please feel free to contact me at Jennifer.morgan@oregonstate.edu

Best regards,

Jennifer Morgan

To enter survey, click on the link below:

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

Researcher:
Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
jennifer.morgan@oregonstate.edu

Principal Investigator:
Heidi Wegis, PhD
Physical Education Teacher Education
College of Public Health and Human Sciences
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123 Women's Building
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Heidi.Wegis@oregonstate.edu

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

APPENDIX F. Follow-Up Email

Dear Physical Educator,

I am writing to follow-up regarding an email invitation that was sent to you approximately one week ago. If you have already responded to my request, I would like to thank you for your effort and time and you can ignore the following requests.

If you have not yet responded, please consider helping us. As you may recall, we are conducting a research study. The study is titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes. Including children with disabilities in general education classes can be extremely challenging and we want to find out the factors that influence physical educators' intentions and behaviors in this process. We believe understanding these factors will help future physical education teacher training as well as fellow physical educator teachers.

If you are interested in helping us, please click on the link below and fill out an on-line survey, which has been created using Survey Monkey.

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

Thank you for your consideration. If you have any questions please feel free to contact me at jennifer.morgan@oregonstate.edu

Best regards,

Jennifer Morgan

Researcher:
Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
Jennifer.Morgan@oregonstate.edu

Principal Investigator:
Heidi Wegis, PhD
Physical Education Teacher Education
College of Public Health and Human Sciences
Oregon State University
123 Women's Building

Corvallis, OR 97331
Telephone: (541) 737-9932
Heidi.Wegis@oregonstate.edu

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

APPENDIX G. Follow-Up Email – Principal

Dear Principal,

I am writing to follow-up regarding an email invitation that was sent to you approximately one week ago. This email is in effort to thank those who have responded. We are also writing to request that those who have not yet responded consider participating in this important research study. The study is titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes.

Can you please forward the message below to your school's physical education teacher? Your help in this matter is greatly appreciated.

Dear Physical Educator,

I would like to follow-up regarding the email invitation that was sent to you approximately one week ago. If you have already responded to my request, I would like to thank you for your effort and time and you can ignore the following requests.

If you have not yet responded, please consider helping us. As you may recall, we are conducting a research study. The study is titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes. Including children with disabilities in general education classes can be extremely challenging and we want to find out the factors that influence physical educators' intentions and behaviors in this process. We believe understanding these factors will help future physical education teacher training as well as fellow physical educator teachers.

If you are interested in helping us, please click on the link below and fill out an on-line survey, which has been created using Survey Monkey.

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

Thank you for your consideration. If you have any questions please feel free to contact me at Jennifer.Morgan@oregonstate.edu

Best regards,

Jennifer Morgan

Researcher:

Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
Jennifer.Morgan@oregonstate.edu

Principal Investigator:
Heidi Wegis, PhD
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Heidi.Wegis@oregonstate.edu

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

APPENDIX H – Final Contact Email

Dear Physical Educator,

I would like to follow-up regarding the email invitations that were sent to you within the past month. If you have already responded to our request, I would like to thank you for your effort and time, and you may ignore the following requests.

If you have not yet responded, we would ask that you reconsider helping us. This research study is in effort to gain a better understanding of the factors that influence physical education teachers' intentions and behaviors toward including students with disabilities. The study is titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes. As you are likely well aware of, including students with disabilities is not always an easy task and physical education teachers often feel underprepared. We hope that the results from this study will help inform future inclusion practices and training.

If you are interested in helping us, please click on the link below and fill out an on-line survey, which has been created using Survey Monkey.

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

This will be our final contact. Thank you for your consideration. If you have any questions please feel free to contact me at jennifer.morgan@oregonstate.edu

Best regards,

Jennifer Morgan

Researcher:
Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
Jennifer.morgan@oregonstate.edu

Principal Investigator:
Heidi Wegis, PhD
Physical Education Teacher Education
College of Public Health and Human Sciences

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Heidi.Wegis@oregonstate.edu

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

APPENDIX I. Final Contact – Principal

Dear Principal,

I am writing to follow-up regarding email communications that were sent to you within this past month. If you have forwarded the previous emails to your school's physical education teacher, thank you very much. This email is our final contact and is aimed at thanking all participants as well as asking those who have not responded to reconsider helping us in this research study. We ask that you once again, forward the below message to your school's physical education teacher. Thank you for your time and consideration.

Dear Physical Educator,

I would like to follow-up regarding the email invitations that were sent to you within the past month. If you have already responded to our request, I would like to thank you for your effort and time, and you may ignore the following requests.

If you have not yet responded, we would ask that you reconsider helping us. This research study is in effort to gain a better understanding of the factors that influence physical education teachers' intentions and behaviors toward including students with disabilities. The study is titled Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes. As you are likely well aware of, including students with disabilities is not always an easy task and physical education teachers often feel underprepared. We hope that the results from this study will help inform future inclusion practices and training.

If you are interested in helping us, please click on the link below and fill out an on-line survey, which has been created using Survey Monkey.

https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

This will be our final contact. Thank you for your consideration. If you have any questions please feel free to contact me at jennifer.morgan@oregonstate.edu

Best regards,

Jennifer Morgan

Researcher:

Jennifer Morgan
Movement Studies in Disability
Women's Building
Oregon State University
Corvallis, OR 97331
jennifer.morgan@oregonstate.edu

Principal Investigator:
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https://www.surveymonkey.com/s/Inclusion_Intentions_and_Behaviors

APPENDIX J. Survey

Welcome

Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes



1. You are being invited to participate in a research study. If you agree to participate in this study, you will be asked to complete this web-based survey and submit it to the researcher.

The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including students with autism in physical education.

The survey will take approximately 30 minutes to complete. The information that you give in the study will be handled confidentially. Your name, and any identifiable information will not be used in any report. The security and confidentiality of information collected from you online cannot be guaranteed. Information collected online can be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses

Your participation in the study is completely voluntary and you have the right to withdraw from the study at any time. Some of the questions in this survey may make you uncomfortable. You can skip any questions you would prefer not to answer. If you want to withdraw from the study, do not complete and/or submit the survey.

This study may help provide guidance for future in-service and teacher education programming. While there are no direct benefits for participating in this study, the results may help physical education researchers and educators understand factors influencing teachers' beliefs and practices for including students with autism.

If you have questions about the study, contact:

Researchers:

Jennifer Morgan
Movement Studies in Disabilities Program
College of Public Health and Human Sciences
Oregon State University
13 Women's Building
Corvallis, OR 97331
Telephone: (541) 737-3353
morgajen@onid.orst.edu

or

Heidi Wegis, PhD
Nutrition and Exercise Science

College of Public Health and Human Sciences
Oregon State University
107D Women's Building
Corvallis, OR 97331
Telephone: 541) 737-9932
Heidi.Wegis@oregonstate.edu

If you have questions about your rights or welfare as a participant contact:
The Oregon State University Institutional Review Board (IRB) Office
Telephone: (541) 737-8008
Email: IRB@oregonstate.edu

Agreement: Completion and submission of the survey constitutes consent to participate in the research study described above.

You may print a copy of this form for your records.

If you agree to participate, click CONTINUE to proceed to the survey

◯ Continue
◯ Quit Survey

2. Are you currently teaching physical education?

- ◯ Yes
- ◯ No

Below you will see a description of a student with autism, please read it carefully and answer the following questions based on the description.

*A student with autism is someone who has:

(a) significant difficulties in social interactions with peers and teachers,

(b) significant difficulties in communication, both in understanding what is said and producing verbal language, and

(c) unique, repetitive behaviors that interfere with learning and attending.

In physical education, most students with autism may have difficulties relating to peers, understanding directions, following changes in class routines, playing appropriately with equipment, and tolerating the noise level and space in the gym. In addition, students with autism may display inappropriate behaviors such as hand flapping, rocking, and wandering around the space.

*Modified from the DSM-IV-TR definition of autism (2000).

3. Have you ever had a student with autism in your physical education class?

◯ Yes

◯ No

Self-Efficacy to Include Students with Mild Autism

4. Please rate your degree of confidence by choosing a number from 0 to 10 using the scale given below:
I am confident in my ability to:

	1 Cannot do at all	2	3	4	5 Moderately can do	6	7	8	9	10 Highly certain can do
Modify equipment for students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Modify activities for students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Create a safe environment for students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Promote social interactions with peers for students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Manage behaviors of students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Modify instructions for students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Assess the motor skills of students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Modify rules to games for students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Collaborate effectively with other teachers/professionals regarding students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Motivate students with autism who are included in my general physical education classes.	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Attitude, Subjective Norm, and Perceived Behavioral Control

5. Teaching students with autism in my physical education class would be:

	(1) Extremely HARMFUL	2	3	4	5	6	(7) Extremely BENEFICIAL
.	◯	◯	◯	◯	◯	◯	◯

6. Teaching students with autism in my physical education class would be:

	(1) Extremely BAD	2	3	4	5	6	(7) Extrememly GOOD
.	◯	◯	◯	◯	◯	◯	◯

7. Teaching students with autism in my physical education class would be:

	(1) Extremely WORTHLESS	2	3	4	5	6	(7) Extremely USEFUL
.	◯	◯	◯	◯	◯	◯	◯

Social Norms

8. Most people who are important to me think that:

	(1) I should NOT teach students with autism in my PE class	2	3	4	5	6	(7) I SHOULD teach students with autism in my PE class
.	◯	◯	◯	◯	◯	◯	◯

9. It is expected of me that I teach students with autism in my physical education class

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

10. I feel under social pressure to teach students with autism in my physical education class.

	(1) Definitely FALSE	2	3	4	5	6	(7) Definitely TRUE
.	◯	◯	◯	◯	◯	◯	◯

Perceived Behavioral Control

11. I am confident that I could teach students with autism in my physical education class if I wanted to.

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

12. For me to teach students with autism in my physical education class would be:

	(1) Extremely DIFFICULT	2	3	4	5	6	(7) Extremely EASY
.	◯	◯	◯	◯	◯	◯	◯

13. Whether I teach students with autism in my physical education class or not would be entirely up to me:

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

Behavioral Beliefs

14. Teaching students with autism in my physical education class would positively change how students without disabilities will feel about students with autism:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

15. Changing how students without disabilities feel about students with autism would be:

	(1) Extremely WORTHLESS	2	3	4	5	6	(7) Extremely VALUABLE
.	◯	◯	◯	◯	◯	◯	◯

16. Teaching students with autism in my physical education class would result in less instruction and practice time for students without disabilities:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

17. Reduction of instruction and practice time for students without disabilities would be:

	(1) Extremely BAD	2	3	4	5	6	(7) Extremely GOOD
.	◯	◯	◯	◯	◯	◯	◯

18. Teaching students with autism in my physical education class would result in cooperation between students with and without disabilities:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

19. An increase in cooperation between students with and without disabilities would be:

	(1) Extremely USELESS	2	3	4	5	6	(7) Extremely USEFUL
.	◯	◯	◯	◯	◯	◯	◯

20. Teaching students with autism in my physical education class would take time away from students without disabilities' instruction time:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

21. Taking time away from students without disabilities' instruction time would be:

	(1) Extremely BAD	2	3	4	5	6	(7) Extrememly GOOD
.	◯	◯	◯	◯	◯	◯	◯

22. Students with autism who are taught in my physical education class would be forced to participate in activities that are inappropriate for their abilities:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

23. Forcing students with autism to participate in activities that are inappropriate for their abilities would be:

	(1) Extremely BENEFICIAL	2	3	4	5	6	(7) Extremely HARMFUL
.	◯	◯	◯	◯	◯	◯	◯

24. Teaching students with autism in my physical education class would enhance socialization for both students with and without disabilities:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

25. Enhancing socialization for students both with and without disabilities would be:

	(1) Extremely USELESS	2	3	4	5	6	(7) Extremely USEFUL
.	◯	◯	◯	◯	◯	◯	◯

26. Teaching students with autism in my physical education class would provide them with a better opportunity to learn:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

27. Increasing opportunities to learn for students with autism would be:

	(1) Extremely WORTHLESS	2	3	4	5	6	(7) Extremely VALUABLE
.	◯	◯	◯	◯	◯	◯	◯

28. Teaching students with autism in my physical education class would be safe for them:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

29. Being safe for students with autism would be:

	(1) Extremely BAD	2	3	4	5	6	(7) Extrememly GOOD
.	◯	◯	◯	◯	◯	◯	◯

Normative Beliefs

30. Most parents of students with autism think that:

	(1) I should NOT teach students with autism in my PE class.	2	3	4	5	6	(7) I SHOULD teach students with autism in my PE class.
.	◯	◯	◯	◯	◯	◯	◯

31. Generally speaking, I would do what most parents of students with autism think I should do:

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

32. Most organizations supporting people with disabilities think that:

	(1) I should NOT teach students with autism in my PE class.	2	3	4	5	6	(7) I SHOULD teach students with autism in my PE class.
.	◯	◯	◯	◯	◯	◯	◯

33. Generally speaking, I would do what most organizations supporting people with disabilities think I should do:

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

34. Most parents of students WITHOUT disabilities think that:

	(1) I should NOT teach students with autism in my PE class.	2	3	4	5	6	(7) I SHOULD teach students with autism in my PE class.
.	◯	◯	◯	◯	◯	◯	◯

35. Generally speaking, I would do what most parents of students without disabilities think I should do:

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

36. Most students WITHOUT disabilities think that:

	(1) I should NOT teach students with autism in my PE class.	2	3	4	5	6	(7) I SHOULD teach students with autism in my PE class.
.	◯	◯	◯	◯	◯	◯	◯

37. Generally speaking, I would do what most students WITHOUT disabilities think I should do:

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

38. Most adapted physical educators think that:

	(1) I should NOT teach students with autism in my PE class.	2	3	4	5	6	(7) I SHOULD teach students with autism in my PE class.
.	◯	◯	◯	◯	◯	◯	◯

39. Generally speaking, I would do what most adapted physical educators think I should do:

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

40. My school principal thinks that:

	(1) I should NOT teach students with autism in my PE class.	2	3	4	5	6	(7) I SHOULD teach students with autism in my PE class.
.	◯	◯	◯	◯	◯	◯	◯

41. Generally speaking, I would do what my principal thinks I should do:

	(1) Strongly DISAGREE	2	3	4	5	6	(7) Strongly AGREE
.	◯	◯	◯	◯	◯	◯	◯

42. There is appropriate equipment for students with autism in my school:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

43. Having appropriate equipment would make teaching students with autism in my physical education class:

	(1) Impossible	2	3	4	5	6	(7) Possible
.	◯	◯	◯	◯	◯	◯	◯

44. There is harmony between students with and without disabilities in my physical education class:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

45. Harmony of students with and without disabilities would make teaching students with autism in my physical education class:

	(1) More difficult	2	3	4	5	6	(7) Easier
.	◯	◯	◯	◯	◯	◯	◯

Control Beliefs


46. My school, in general, can accommodate students with autism:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

47. That my school, in general, could accommodate students with autism would make teaching these students in my physical education class:

	(1) More difficult	2	3	4	5	6	(7) Easier
.	◯	◯	◯	◯	◯	◯	◯

48. I have a teacher assistant when I teach students with autism in my physical education class:

	(1) Completely false	2	3	4	5	6	(7) Completely true
.	◯	◯	◯	◯	◯	◯	◯

49. Having a teacher assistant for students with autism would make teaching these students in my physical education class:

	(1) More difficult	2	3	4	5	6	(7) Easier
.	◯	◯	◯	◯	◯	◯	◯

50. There are materials and programs available to help me better teach students with autism in my physical education class:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

51. Having access to materials and programs would make teaching students with autism in my physical education class:

	(1) More difficult	2	3	4	5	6	(7) Easier
.	◯	◯	◯	◯	◯	◯	◯

52. Various in-service programs related to adapted physical education are provided in my city:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

53. Having access to various in-service programs related to adapted physical education would make teaching students with autism in my physical education class:

	(1) More difficult	2	3	4	5	6	(7) Easier
.	◯	◯	◯	◯	◯	◯	◯

54. Usually, people have a prejudice against students with disabilities that students with disabilities like autism cannot learn and do well:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

55. People's prejudice against students with disabilities would make teaching students with autism in my physical education class:

	(1) More difficult	2	3	4	5	6	(7) Easier
.	◯	◯	◯	◯	◯	◯	◯

56. There are internal and external administrative supports to teach inclusive physical education classes in my school:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

57. Having internal and external administrative supports for inclusive physical education class in my school would make teaching students with autism in my physical education class:

	(1) Impossible	2	3	4	5	6	(7) Possible
.	◯	◯	◯	◯	◯	◯	◯

Intentions

58. I intend to teach students with autism in my physical education class:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

59. I will try to teach students with autism in my physical education class:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

60. I am determined to teach students with autism in my physical education class:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

61. I plan to teach students with autism in my physical education class:

	(1) Unlikely	2	3	4	5	6	(7) Likely
.	◯	◯	◯	◯	◯	◯	◯

Behaviors

62. In your school, can you exclude a student with autism from attending your physical education class?

- ◯ Yes
- ◯ No

63. If you answered yes to the previous question, how many students with autism have you excluded from your physical education class?

In 2010 approximately _____ number of students with autism

In 2009 approximately _____ number of students with autism

Before 2009 approximately _____ number of students with autism

64. What was the reason(s) for excluding the student(s) from your physical education class(es)?
Please check all that apply.

- [ ] Safety issue
- [ ] No teaching assistant
- [ ] Lack of preparation
- [ ] Assessment issues
- [ ] Inappropriate PE program for students with autism
- [ ] Extra burden
- [ ] No equipment
- [ ] Lack of knowledge about adapted PE
- [ ] Distracting class
- [ ] Taking away instruction time from students without disabilities
- [ ] N/A
- [ ] Other (please specify)

_____

65. How many students with autism have you taught in your physical education class(es)?

In 2010 approximately _____ number(s) of students with autism	
In 2009 approximately _____ number(s) of students with autism	
Before 2009 approximately _____ number(s) of students with autism	

66. With the students with autism that you taught, how often did you do the following individual modifications for these students? Select the number that best corresponds with your behavior(s)

	(1) Not at all	2	3	4	5	6	(7) Always
Repeat directions	◯	◯	◯	◯	◯	◯	◯
Assign a peer tutor	◯	◯	◯	◯	◯	◯	◯
Change the rules of the game	◯	◯	◯	◯	◯	◯	◯
Adapting for safety	◯	◯	◯	◯	◯	◯	◯
Give child adapted equipment	◯	◯	◯	◯	◯	◯	◯
Extra instruction on skill	◯	◯	◯	◯	◯	◯	◯
Modify assessment	◯	◯	◯	◯	◯	◯	◯
Give special reinforcement	◯	◯	◯	◯	◯	◯	◯

Support Systems

67. Does your school district have an adapted physical education specialist?

- ◯ Yes
- ◯ No

68. If yes to the previous question, this APE person (check all that apply):

- [ ] Teaches the student in a separate adapted physical education class setting.
- [ ] Consults with me on how to better work with this student in my PE class.
- [ ] Pulls student out of my class to work one on one in a different environment.
- [ ] Comes into my PE class and works with the student on a monthly basis.
- [ ] Comes into my PE class and works with the student on a weekly basis.

69. Do you feel you have support from the following:

	Yes	No	Don't Know
Adapted PE specialist	◯	◯	◯
Teacher assistants	◯	◯	◯
Special Ed. teacher	◯	◯	◯
Physical therapist	◯	◯	◯

70. How many undergraduate courses have you completed in adapted physical education?

71. How many graduate courses have you completed in adapted physical education?

72. How many undergraduate or graduate courses have you completed in special education?

73. How many in-services have you attended that had information on autism?

74. How well do you think your undergraduate PE program prepared you to include students with autism in general physical education?

- ◯ Not at all
- ◯ Fairly well
- ◯ Very well
- ◯ N/A

Other (please specify)

75. If applicable, how well do you think your graduate PE program prepared you to include students with autism in general physical education?

- ◯ Not at all
- ◯ Fairly well
- ◯ Very well
- ◯ N/A

Other (please specify)

Demographics

76. How old are you?

77. What is your gender?

- ◯ Female
- ◯ Male
- ◯ Other

78. What state do you currently teach in?

79. Are you certified to teach PE in your state?

- ◯ Yes
- ◯ No

80. How many years of experience teaching physical education do you have? (e.g., 1, 2, 3, etc.)

81. What grade level(s) do you currently teach? Check all that apply.

- ☐ Elementary
- ☐ Middle/Jr. High School
- ☐ High School

Thank you!

Thank you for your time and consideration. Your participation is much appreciated.

APPENDIX K. Institutional Review Board Approval

Institutional Review Board • Office of Research Integrity
B308 Kerr Administration Building, Corvallis, Oregon 97331-2140
Tel 541-737-8008 | Fax 541-737-3093 | IRB@oregonstate.edu
http://oregonstate.edu/research/ori/humansubjects.htm

NOTIFICATION OF APPROVAL
May 15, 2012

Principal Investigator:	Heidi Wegis	Department:	Nutrition Exercise Sciences
Study Team Members:	Joonkoo Yun, Jeff McCubbin		
Student Researcher:	Jennifer Morgan		
Study Number:	5242		
Study Title:	Examining Physical Education Teachers' Intentions and Behaviors for Including Students with Autism in General Physical Education Classes		
Funding Source:	None		
Funding Proposal #:			
PI on Grant/Contract:			
Submission Type:	Initial Application received 03/12/2012		
Review Category:	Expedited	Category Number:	7
Waiver(s):	Waiver of documentation of Informed Consent	Number of Participants: *Do not exceed without prior IRB approval*	3,000
Risk level for children[1]:	N/A		

The above referenced study was reviewed and approved by the OSU Institutional Review Board (IRB).

Approval Date: 05/14/2012
Expiration Date: 05/13/2013

Annual continuing review applications are due at least 30 days prior to expiration date

Documents included in this review:

- ☒ Protocol
- ☐ Consent forms
- ☐ Assent forms
- ☒ Alternative consent
- ☐ Letters of support
- ☒ Recruiting tools
- ☒ Test instruments
- ☐ Attachment A: Radiation
- ☐ Alternative assent
- ☐ Project revision(s)
- ☐ External IRB approvals
- ☐ Translated documents
- ☐ Attachment B: Human materials
- ☐ Grant/contract
- ☐ Other:

Comments:

Principal Investigator responsibilities for fulfilling the requirements of approval:

- All study team members should be kept informed of the status of the research.
- Any changes to the research must be submitted to the IRB for review and approval prior to the activation of the changes. **This includes, but is not limited to, increasing the number of subjects to be enrolled.**
- Reports of unanticipated problems involving risks to participants or others must be submitted to the IRB within three calendar days.
- Only consent forms with a valid approval stamp may be presented to participants.
- Submit a continuing review application or final report to the IRB for review at least four weeks prior to the expiration date. Failure to submit a continuing review application prior to the expiration date will result in termination of the research, discontinuation of enrolled participants, and the submission of a new application to the IRB.

If you have any questions, please contact the IRB Office at IRB@oregonstate.edu or by phone at (541) 737-8008.

[1] Where parental permission is to be obtained, the IRB may find that the permission of one parent is sufficient for research to be conducted under §46.404 or §46.405. Where research is covered by §§46.406 and 46.407 and permission is to be obtained from parents, both parents must give their permission unless one parent is deceased, unknown, incompetent, or not reasonably available, or when only one parent has legal responsibility for the care and custody of the child.

IRB Form v.01/2012